

1 UNITED STATES DISTRICT COURT
2 WESTERN DISTRICT OF WASHINGTON AT SEATTLE

3
4 MICROSOFT CORPORATION,)
5 Plaintiff,) 10-01823-JLR
6 v.) SEATTLE, WASHINGTON
7 MOTOROLA INC., et al,) November 19, 2012
8 Defendant.) TRIAL DAY 5
9)

10 VERBATIM REPORT OF PROCEEDINGS
11 BEFORE THE HONORABLE JAMES L. ROBART
12 UNITED STATES DISTRICT JUDGE

13 APPEARANCES:

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15
16 For the Plaintiff: Arthur Harrigan, Christopher
17 Wion, David Pritikin and Andy
Culbert

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19
20 For the Defendants: Jesse Jenner, Ralph Palumbo, Mark
21 Rowland, Philip McCune and Neill
Taylor

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1 THE COURT: Since it is Monday, let's have the clerk
2 call this matter.

3 THE CLERK: C10-1823, Microsoft versus Motorola.
4 Counsel, please make your appearance.

5 MR. HARRIGAN: Good morning, your Honor, Art
6 Harrigan, representing Microsoft; and David Pritikin is here
7 from Sidley; Rick Cederoth next to him; Andy Culbert; Ellen
8 Robbins from Sidley; and my partner Chris Wion.

9 MR. JENNER: Good morning, your Honor. Jesse Jenner,
10 Ropes & Gray; Ralph Palumbo of Summit; Steve Pepe, Ropes &
11 Gray; Gabbie Higgins, Ropes & Gray; Matt Clements, Ropes &
12 Gray; Mark Rowland, Ropes & Gray; and Tom Miller from
13 Motorola, all for Motorola.

14 THE COURT: Thank you. Counsel, there is a
15 widespread belief that district court judges are all
16 powerful, and lots of jokes about that. But I do feel
17 constrained by the Ninth Circuit sometimes. And, therefore,
18 I am going to change the court's ruling in regards to
19 confidentiality.

20 I will indulge in a moment of personal opinion, which is
21 the Ninth Circuit's decision in Electronic Arts is simply
22 wrong.

23 As I have explained previously, the philosophy in this
24 district is that it will no longer enter protective orders
25 enabling the parties' private agreements. The parties, in

1 this instance Motorola, entered into contracts with third
2 parties establishing confidentiality, and now seeks to use
3 that confidential information in a court proceeding, in which
4 the public has a right to know the basis for the royalty that
5 I am going to set.

6 I find nothing in the record to justify sealing those
7 records, other than the fact that Motorola and third parties
8 agreed they were confidential. And, therefore, I find the
9 Ninth Circuit decision to be violative of the principle that
10 is applicable in this district.

11 Having said that, the people who grade my homework have
12 announced a decision which is contrary. And, therefore, I
13 will do the following: I will treat licensing agreements as
14 sealed. I expect redacted licensing agreements, which will
15 be the entire document other than pricing terms, royalty
16 rates and guaranteed minimum payment terms to be redacted,
17 and the remainder of the agreement to be in the public
18 record.

19 Further, I am reluctantly compelled to seal the courtroom
20 when the aspects of pricing terms, royalty rates and
21 guaranteed minimum payments are discussed, because I am
22 persuaded by the argument that the party seeking to use that
23 information should not be encumbered in some manner by the
24 fact that it is being treated as confidential.

25 And while I'm on my soapbox, I will add the following note

1 the next time the Ninth Circuit takes this matter up, which
2 is contrary to the position taken by at least one of the
3 parties in this. This is not terribly difficult work. We
4 set royalty rates regularly. We do so using established case
5 law, principally the Georgia Pacific factors. And the
6 Georgia Pacific factors direct the court to look at other
7 licensing agreements for the same patents as the primary and
8 predominant basis for its decision-making. And, therefore,
9 the effect of Electronic Arts is to shelter from public
10 review the very terms which are the heart and soul of the
11 setting of royalty terms.

12 While each party in this litigation has put forth its pet
13 theory on how I am supposed to do this, it seems to me that
14 even those theories acknowledge, as Mr. Jenner did in his
15 recent opening, that the Georgia Pacific factors have a role
16 in this royalty-setting proceeding.

17 So I have explained to you the basis of how I wish to
18 proceed, and the basis for doing so. Mr. Jenner, I think you
19 have the biggest dog in this fight. Any questions about how
20 we are going to proceed, or any objections? Mr. Pepe? No.
21 You didn't make it out of the bullpen.

22 MR. JENNER: Your Honor, I guess the question still
23 relates to your opinion --

24 THE COURT: I will use the redacted versions and the
25 circuit will have the unredacted versions. They are sealed,

1 but they will be part of the record.

2 MR. JENNER: Okay. Thank you.

3 THE COURT: I'm not sure who would be speaking for
4 Microsoft.

5 MR. HARRIGAN: That would be me, your Honor. As long
6 as we get to do our cross-examination, which it sounds like
7 we will, we have no problem with the court's current
8 approach.

9 THE COURT: Do we have a representative from RIM
10 here?

11 MR. DENKENBERGER: Yes, your Honor. Thank you, your
12 Honor, for taking the time. Just for clarity, are we saying
13 the entire agreement is redacted or just the --

14 THE COURT: The three terms.

15 MR. DENKENBERGER: Just the three terms?

16 THE COURT: Yes.

17 MR. DENKENBERGER: There are additional terms in that
18 agreement that are just absolutely confidential to RIM. They
19 include terms that perhaps we gave up during the terms of
20 negotiations that are competitively sensitive to RIM. It
21 seems as though the agreement in its entirety, at least those
22 portions, should be sealed as well, your Honor.

23 THE COURT: What authority do you have for that,
24 since the Ninth Circuit seems to speak, and it says those
25 three factors are what it considers trade secrets?

1 MR. DENKENBERGER: Yes, sir. I cite back to your own
2 order, your Honor, where you cite about technical
3 information, business sensitive and competitive information.
4 And I believe -- I forget the third category, your Honor. I
5 beg the court's pardon on that.

6 THE COURT: I think it was software source code.

7 MR. DENKENBERGER: Yes, sir. In those agreements --
8 That's what we are trying to say. In those agreements there
9 is business competitive sensitive information, that if
10 divulged -- if divulged even to certain parties, who perhaps
11 may or may not be in this courtroom, your Honor, will be
12 competitively harmful to RIM.

13 THE COURT: I don't think the test is competitively
14 harmful, but I understand your argument. I am not going to
15 seal the entire document which contains both confidential and
16 nonconfidential. If you want to propose something and run it
17 by the parties, I am happy to consider it. But as it stands
18 right now, I am just blanket rejecting the notion that these
19 things are so proprietary that no one is going to get to know
20 them. They are going to be redacted to the extent that it
21 meets the Ninth Circuit standard. To the extent it doesn't,
22 it will be a redacted document.

23 MR. DENKENBERGER: Okay. Thank you.

24 THE COURT: Mr. Jenner, when is this issue going to
25 come up?

1 MR. JENNER: I don't believe it will come up today.
2 I think it will come up tomorrow.

3 THE COURT: Mr. Tondini (sic), I think you have until
4 the end of today.

5 MR. JENNER: I can't confirm anything might not come
6 up. I don't think anything will come up from Microsoft. I
7 believe it will probably not come up today.

8 THE COURT: Someone else is standing up.

9 MR. ZEINEDDIN: Good morning. My name is Paul
10 Zeineddin for Samsung Electronics.

11 THE COURT: You are not admitted in this litigation,
12 but you want to speak because you are a third party?

13 MR. ZEINEDDIN: Your Honor, actually I am pro hac-ed
14 in. If I may have one minute? Following up on RIM's
15 counsel's comments. That is actually also Samsung's
16 position. Just to give by way of example, what is -- in
17 addition to the rates, what is being or not being licensed is
18 very sensitive. For example, we see right now, just as in
19 this case, there is a contention of what something may or may
20 not cost. If somebody contends that, for example, Samsung or
21 RIM or some non-third party is not licensed, or is licensed,
22 that is very sensitive information from the customers' point
23 of view, from the suppliers' point of view, for the business
24 of that company as to other nonmonetary terms. There may be
25 some kind of transfers.

1 We have heard parties here -- We are not a party, so we
2 are not characterizing what a license means, but we have heard
3 parties characterize already on both sides what our licenses
4 may or may not cover. As this information comes out, and
5 considering other litigation that is going on, considering
6 customer relationships, and supplier relationships, that can
7 actually have a very harmful impact on how those non-third
8 parties conduct their business. We just wanted to give that
9 for your Honor's consideration.

10 THE COURT: Let me extend to you the same invitation
11 that I made to Mr. Tondini, which is you just redact the
12 agreement to the extent you think the information needs to be
13 redacted, and show it to the parties. And before it is taken
14 up, we will give you the chance to argue if there is a
15 disagreement.

16 Let me stress again what I think is the point that is
17 missing in this. The fact that it is sensitive information
18 is not what the Ninth Circuit standard is. The Ninth Circuit
19 standard is competitive harm. And this is not to say what --
20 The examples that you have given might well be competitive
21 harm. But sensitive is not the equivalent of competitive
22 harm. The fact that the parties want to hide stuff from the
23 public in a private context, you are welcome to do that all
24 you want. But in order to justify preventing disclosure in a
25 litigation, particularly when it is impacting the issue we

1 are talking about, it seems to me you need to show me on some
2 basis that it is competitive harm. That's not directed at
3 you, it is directed at third parties generally. You are
4 covered by the same process that I have suggested that is
5 being followed by RIM.

6 Anything further, sir?

7 MR. ZEINEDDIN: No. Thank you, your Honor.

8 THE COURT: Anything else?

9 MR. JENNER: Your Honor, we have some --

10 THE COURT: I have been calling you Mr. Tondini. Is
11 that not right? It is Mr. Denkenberger?

12 MR. DENKENBERGER: That's correct.

13 THE COURT: My apologies.

14 MR. JENNER: Your Honor, we do have some of the
15 morning document-sealing housekeeping matters that counsel
16 will address.

17 THE COURT: I was going to take up the motion to
18 quash also.

19 MR. HARRIGAN: I think that has been resolved.

20 MR. PEPE: It has been resolved. Motorola is
21 withdrawing the subpoena for John Caruana.

22 THE COURT: That is a very wise decision, because
23 somebody was going to be spending their Thanksgiving in jail.
24 Let's take up the question of sealing.

25 MR. BRENNER: Good morning, your Honor. Samuel

1 Brenner. May I approach the bench with two documents?

2 THE COURT: Yes.

3 MR. BRENNER: Your Honor, what I have just given the
4 court is two copies of two documents, both of which have been
5 provided to opposing counsel. One is just for the court's
6 convenience. It is our list that we have been tracking of
7 documents that we believe the court has sealed from both
8 Microsoft and Motorola at this point. There are highlighted
9 documents on there that one party or another has asked to be
10 sealed, but that have not yet been sealed.

11 The other document that I have handed up is a document
12 laying out some of the entries on that first sheet. These
13 are documents that Motorola asked to be sealed in its initial
14 motion. We have indicated what categories they fall into. I
15 believe they are all licenses, except for the last one, which
16 is a summary of settlement negotiations which both parties
17 have asked to be sealed. And we are asking the court
18 provisionally seal those or seal those at this time.

19 THE COURT: In terms of the license agreements that
20 you want to have sealed, this is what Motorola was moving to
21 be sealed, previously moved in Docket 495. Do the redacted
22 versions conform to the court's order, or are you going to be
23 submitting new redacted versions?

24 MR. BRENNER: Your Honor, our intention is any
25 documents that we use at trial we will provide a redacted

1 version in accordance with the court's order of this morning.
2 We have not yet provided redacted versions.

3 Our request is that the court indicate -- add these to the
4 licenses that it has already indicated in that initial order,
5 that it be sealed, and then we will provide redacted versions
6 once we plan to use them.

7 THE COURT: I understand. Ms. Robbins.

8 MS. ROBBINS: Good morning, your Honor. We had a
9 couple of administrative things to take care of this morning.
10 One thing you asked is to have a list of the exhibits that
11 were incorporated within the parties' deposition designations
12 that have not yet been admitted. I believe we each have a
13 list corresponding to our own designations. We would like to
14 move those to be admitted this morning. I will hand those
15 up, if I may approach.

16 THE COURT: You may.

17 MR. BRENNER: Your Honor, actually, Motorola would
18 like to read the numbers of the documents into the record.

19 THE COURT: Do you have a written list?

20 MR. BRENNER: Not in a form the court would
21 appreciate.

22 THE COURT: The reason I ask for that is, it is going
23 to make the clerk's job easier. We will listen to your oral
24 list.

25 MR. BRENNER: Yes, your Honor. I think some of the

1 same documents appear on both lists. Exhibit Number 1,
2 Number 2, Number 123, Number 1585, Number 2041, Number 2366,
3 Number 2367, Number 2368, Number 2369, Number 2371, Number
4 2372, Number 2373, Number 2377, Number 2840, Number 3081.

5 THE COURT: All right.

6 MS. ROBBINS: Your Honor, we don't have any
7 objection. We wanted to note for the record, there are four
8 of those exhibits that are subject to the court's sealing
9 order, 2366, 2371, 2372 and 2377. And we can provide
10 redacted versions.

11 THE COURT: So that our record is clear, I have been
12 provided a list of Microsoft's deposition designations, and
13 am directing the clerk to consider those to be admitted.
14 Motorola this morning has announced orally the deposition
15 exhibits, and I am directing that those are admitted.

16 Anything else, counsel?

17 MS. ROBBINS: Two very brief housekeeping matters,
18 your Honor. We had discussed last Thursday morning
19 Exhibit 16, which was the proposed license between Marvell
20 and Motorola. I don't know if this is still relevant in
21 light of your order. You had asked that we confirm with
22 Marvell whether they believe any of the information contained
23 therein is confidential. We have confirmed that they do not
24 believe that there is any confidential information.

25 MR. BRENNER: Your Honor, we provided a proposed set

1 of redactions to that exhibit, including -- I don't
2 recall -- I don't believe we included redacted pricing
3 terms, because that material had been discussed in open
4 court. In light of your order this morning, we did take the
5 opportunity to provide a revised redacted version.

6 THE COURT: I was going to say, go back to the
7 drawing boards.

8 MS. ROBBINS: Lastly, if I can approach, we would
9 like to hand up redacted copies of the exhibits that we used
10 with Mr. Del Castillo that were subject to your same order.

11 THE COURT: You may approach.

12 MR. BRENNER: Your Honor, we have seen these
13 redactions. We would just want to confirm that the full
14 documents which have been admitted into evidence are
15 available to the court.

16 THE COURT: The full documents of any of the redacted
17 or sealed exhibits will be what is in the record. It will be
18 available to the court, it will be available to an appellate
19 court that reviews this decision. The redacted version is
20 what will appear in the public record.

21 MR. BRENNER: Thank you, your Honor.

22 MS. ROBBINS: Thank you. Nothing further.

23 THE COURT: Counsel, with some amazement I was
24 advised that Motorola's position is that it is going to make
25 to through 12 witnesses -- yesterday it was 13, but 12

1 witnesses in the remaining period of time that you have.

2 Mr. Pepe, you look like you are going to pick up this.

3 MR. PEPE: We have withdrawn a number of witnesses,
4 your Honor. Just for the record, we will give you today's
5 current lineup.

6 THE COURT: When did you withdraw them, counsel?

7 MR. PEPE: We informed Microsoft yesterday, I believe
8 that we will be withdrawing Mr. Heiner in view of the time
9 constraints. And we are still considering one witness,
10 depending upon how we proceed through the list today. We
11 have also agreed to allow Dr. Orchard, who is reappearing
12 today to finish his case-in-chief testimony, to appear today
13 as a rebuttal witness during our case to accommodate his
14 schedule. He will be inserted towards the end of the day.
15 The current list is Dr. Luthra, who will be finishing his
16 testimony from last Friday, followed by Dr. Drabik, and then
17 Dr. Orchard, who will be finishing his case-in-chief
18 testimony, followed by Dr. Williams, Dr. Schmalensee,
19 Dr. Sukumar. And then we anticipate Dr. Orchard will appear
20 in the rebuttal. And then if we have time, Mr. Dansky. We
21 also informed that two of our may-call witnesses, Mr. Taylor
22 and Mr. Kowalski, would not be appearing. We informed
23 Microsoft of that over the weekend.

24 THE COURT: Informing Microsoft doesn't inform the
25 court. We have a lot of stuff going on, particularly when

1 you start filing things over the weekend. We prepare for
2 these witnesses. Apparently that is not noticeable to the
3 parties. When I ask you to give notice to the court, the
4 reason is that we have now wasted our time preparing for
5 witnesses that you apparently have withdrawn previously. I
6 don't know what wasn't clear about my announcement that I was
7 giving you graciously until noon on Saturday -- or 12:30,
8 whatever it was, to advise who your witnesses were going to
9 be.

10 Counsel, I am just pretty astounded that counsel of this
11 quality can't figure out what they are doing. We will resume
12 court proceedings in five minutes or so, after I go get some
13 water for my throat. We are in recess.

14 (Break.)

15 THE COURT: The witness will take the stand, please.
16 You may continue.

17 MR. CEDEROTH: Your Honor, we have a very slim
18 binder.

19 CROSS-EXAMINATION

20 By Mr. Cederoth:

21 Q Dr. Luthra, you were one of the principal Motorola
22 participants in the JVT meetings, correct?

23 A Yes.

24 Q And that was the process that established the H.264
25 standard?

1 A Yes.

2 Q And you attended the JVT meetings, at least some of them,
3 and reported the results?

4 A Yes, I did.

5 Q In your binder, Exhibit 420 --

6 MR. CEDEROTH: Your Honor, this is an exhibit that
7 was admitted this morning.

8 THE COURT: Thank you.

9 By Mr. Cederoth:

10 Q Dr. Luthra, this is a February 5, 2002 report on the
11 second JVT meeting in Geneva in late January, early
12 February 2002, for which you are a co-author, correct?

13 A Correct.

14 Q Let me call your attention, please, to the second
15 paragraph. Now, there you say, "The biggest news for us."

16 A Which line is that, please?

17 Q The very first line of the second paragraph. Do you see
18 where it says, "The biggest news"?

19 A Yes.

20 Q There you say, "The biggest news for us was that we
21 successfully pushed our proposal on picture level adaptive
22 frame/field coding for interlaced video materials into JVT."
23 Do you see that?

24 A Yes.

25 Q Now, the next sentence says, "We were one of the main

1 contributors in the area of interlaced coding." Correct?

2 A Correct.

3 Q So Motorola was not the only company that contributed to
4 the area of interlaced coding in H.264?

5 A There were other companies also working on it.

6 Q If you could skip down the page now to the next paragraph.
7 Do you have that, sir, where it says, "We consider"?

8 A Yes, I do.

9 Q There you say, "We consider the adoption of our adaptive
10 coding in JVT is a major victory for Motorola. First, H.26L,
11 another JVT name before 12/2001, has been around for quite a
12 few years." Do you see that?

13 A Yes, I do.

14 Q Now, when you say "H.26L," you are referring to the draft
15 versions of H.264?

16 A I don't know if I would call H.26L a draft version of
17 H.264. H.26L was a working draft developed by ITU-T, by
18 their video coding expert group. So that was generally given
19 as a starting point for the start of H.264. If that's what
20 you mean, yeah.

21 Q This is what the JVT was working on?

22 A Yes.

23 Q Now, in the next sentence you say, "It likely becomes the
24 future video-coding standard. Many companies, but not
25 including Motorola, have been involved in the development of

1 H.26L from the very early stage." Now, here you are
2 referring to the work Telenor, Microsoft, Nokia, Fraunhofer
3 Heinrich Hertz Institute and others had been doing before
4 Motorola got involved?

5 A Yeah. With just one clarification. By "Motorola" here,
6 we mean our division of Motorola, which was the General
7 Instrument acquired by Motorola, which became Motorola BCS,
8 broadband communications sector. So when referring to that
9 activity of Motorola here, we are more specifically talking
10 about our division.

11 Q Then you go on to say, "Those companies have already
12 generated many IP associated with JVT. We, Motorola, did not
13 have any of our coding tools adopted in H.26L before
14 February 2002." Have I read that accurately so far?

15 A Except let me clarify. Again, by "Motorola" we mean our
16 sector. And we are referring to our coding tools, we are
17 referring to picture level AFF macroblock pair level AFF, the
18 tools associated with improving the performance for
19 interlaced video. So we are focusing on that discussion in
20 that context.

21 Q Next you say, "We are a late bird." When you said that
22 Motorola was a "late bird" as of February 2002, you were
23 saying that Motorola was late to the H.264 development?

24 A No. What we mean was, we were in H.264 from day one.
25 H.264 formally started in December 2001. We were there right

1 from the very first meeting. We were there even the meeting
2 before that. So what here we are referring to is H.26L. And
3 what we mean there is, traditionally ITU-T's video coding
4 expert group had been focusing on video conferencing and
5 video phone applications, like H.261, H.263 and H.26L. So we
6 had not been actively participating in that side. We had
7 been active in MPEG, whose focus had been on digital
8 television. Our sector, not Motorola's, but our sector had
9 been focused mainly on digital television. There were other
10 parts of Motorola that had been focusing on phone, but our
11 focus was on digital television. So we had been focusing
12 mainly on the MPEG side.

13 So when we say we were a "late bird," we are saying that
14 we did not insert our requirements associated with designing
15 a codec for applications that have interlaced video in them.
16 So we are now modifying whatever we are working on, adding
17 tools which are more efficient with regard to coding
18 interlaced video. We are relating in that sense, if we had
19 started work with H.26L, we might have been successful in
20 convincing them to start from the beginning that requirement
21 that you should have an encoder which is optimized for also
22 interlaced video.

23 Q What you just described, that is everything you meant when
24 you said, "We are a late bird"?

25 A That is generally what we were saying, yes.

1 Q Now, the next sentence says, "We started work on the JVT
2 in September 2001, and we submitted our first contribution on
3 interlaced coding in December 2001." Now, that's what you
4 said in February 2002?

5 A Yeah.

6 Q Now, with respect to the JVT meetings, you never discussed
7 Motorola's patents with the other participants?

8 A Can you explain? I'm not sure I understand what you are
9 asking.

10 Q Is it correct that you never gave the other participants a
11 copy of the Motorola patents?

12 A Not to my knowledge. At least I did not.

13 Q And you never told the other participants that Motorola
14 was going to demand 2.25 percent of the end product price if
15 the JVT adopted Motorola's interlace proposals?

16 A We are not allowed to discuss any of those terms about
17 business, the pricing, licensing. So we don't discuss that
18 at all.

19 MR. CEDEROTH: Pass the witness, your Honor.

20 MS. HIGGINS: No further questions, your Honor.

21 THE COURT: You may step down. Thank you, sir. Next
22 witness.

23 MS. HIGGINS: Your Honor, Motorola calls Dr. Timothy
24 Drabik.

25 Whereupon,

1 TIMOTHY J. DRABIK

2 called as a witness, having been first duly sworn, was
3 examined and testified as follows:

4 THE CLERK: Will you state your full name for the
5 record and spell your last name, please?

6 THE WITNESS: My name is Timothy J. Drabik,
7 D-R-A-B-I-K.

8 MS. HIGGINS: Your Honor, we are not using all of
9 them. They were identified on Friday.

10 THE COURT: I was going to say, this is the first
11 witness who deserved his own box.

12 MS. HIGGINS: May I proceed?

13 THE COURT: You may proceed.

14 DIRECT EXAMINATION

15 By Ms. Higgins:

16 Q Please state your full name for the record?

17 A Timothy John Drabik.

18 Q Can you explain for the court your educational background?

19 A I received bachelor of science degrees in electrical
20 engineering and in mathematics in 1981 from Rose-Hulman
21 Institute of Technology. And from Georgia Institute of
22 Technology in 1982 and 1990, respectively, master's and Ph.D.
23 degrees in electrical engineering.

24 Q Please briefly describe your work experience, point out
25 any that relates to video processing.

1 A In the early 1980s I was with Bell Labs in a department
2 that was developing prototype fiber to the home system. We
3 investigated and offered voice, data and video. I believe
4 that was in field trials. I investigated options for video
5 compression and coding, and built hardware as part of that
6 system.

7 Then in the 1990s -- before the 1990s, I held associate
8 and assistant associate professor positions in the School of
9 Electrical and Computer Engineering at Georgia Tech.

10 And then for the ten years after that, at Stanford I held
11 positions in the department of electrical engineering,
12 visiting and consulting faculty positions. In that time I
13 taught courses at the undergraduate and graduate level, and
14 performed research generally in the areas of optics,
15 microelectronics fabrication processes, signal processing,
16 advance processor memory techniques, information theory and
17 other related areas.

18 I also did some consulting for NASA-JPL, Siemens Corporate
19 Research, and worked for Sun Microsystems in the area of
20 optimum electronic systems and advanced processor memory
21 technology.

22 Q Your CV is Exhibit 2202 in your binders. Does your CV
23 accurately reflect your educational and employment
24 background? It is also up on the screen.

25 A Yes, it does.

1 MS. HIGGINS: Offer Exhibit 2202.

2 MR. PRITIKIN: No objection.

3 THE COURT: It is admitted.

4 (2202 admitted.)

5 By Ms. Higgins:

6 Q Are you familiar with the H.264 standard, sir?

7 A Yes, I am. In fact, in January of this year I testified
8 before the ITC with regard to some of the technologies at
9 issue in this case.

10 Q Have you prepared a summary of your opinions in this case?

11 A Yes, I have.

12 Q Please refer to Exhibit 5046. Is that summary?

13 A Yes, it is.

14 MR. PRITIKIN: Can we perhaps get a copy of the
15 binder you are using?

16 By Ms. Higgins:

17 Q Please explain your opinions for the court.

18 A Motorola owns 16 U.S. patents, and foreign counterparts,
19 in six families, that are essential to the H.264 standard.
20 Motorola's H.264 essential patent portfolio is
21 technologically valuable. Microsoft's H.264-compliant
22 products, including Xbox and Windows, use Motorola's H.264
23 essential patents. There were no comparable alternatives to
24 Motorola's H.264 essential patents. And my opinion is that
25 Motorola's portfolio is as valuable, or slightly more

1 valuable, as a technical matter, than Microsoft's portfolio
2 asserted to be H.264 essential.

3 Q Let's start with essentiality, Item Number 1. What did
4 you do to reach your conclusion that Motorola's 16 U.S.
5 patents and foreign counterparts are essential to the H.264
6 standard?

7 A Well, I looked at the patents and at the H.264 standard.
8 And for each patent I identified a representative claim to
9 compare with the standard. And for each of those
10 representative claims, covering all 16 patents, I found that
11 the standard practiced all elements of that representative
12 claim.

13 Q Please refer to Exhibit 5047. What does this chart show?

14 A This shows the 16 patents and six families. The Krause
15 family, Exhibit 270; Wu family, 283; and Eifrig family,
16 Exhibit 268 in the prediction area; the MBAFF family,
17 comprising Exhibits 271 through 278; the picture adaptive
18 frame/fielding coding family, Exhibits 281, 280, 282; and the
19 scan family, comprising Exhibits 265 and 266.

20 Q Now, let's turn to your second opinion. What is the basis
21 for your opinion the H.264 essential patent portfolio is
22 technically valuable?

23 A The patents are directed to core components of prediction,
24 MBAFF coding and prediction, PAFF coding and prediction, and
25 scan and quantization. And these patents substantially

1 improve the coding gain of H.264. And they are -- the
2 individual contributions are responsible for a considerable
3 amount of the gain in coding efficiency in H.264. They are
4 also used widely by Microsoft products.

5 Q Now, have you prepared an exhibit to explain how
6 Motorola's patents relate to these core features?

7 A Yes, I have.

8 Q Please show Exhibit 5048.

9 A Here, I have already mentioned some of this, the Krause,
10 Wu and Eifrig families, relate to prediction at a very basic
11 level. The MBAFF family relates to MBAFF and prediction in
12 the areas of interlaced or mixed progressive interlaced
13 coding -- or field and frame coding, I should say. The PAFF
14 family relates to picture adaptive frame/field coding and
15 prediction, and the scan family to transform and
16 quantization. These are all important core elements of
17 H.264.

18 Q Let's start with the Krause family. Had you prepared a
19 demonstrative to help you explain the Krause '419 patent?

20 A Yes, I have.

21 Q Using Exhibit 5049, please explain the Krause '419 patent.

22 A Krause is very fundamental. It teaches the use of
23 multiple motion compensators to compress a given area of an
24 image. Krause teaches to compress a given area with
25 different motion compensators, and then determine which

1 motion compensator gives the best compression. It then sends
2 the compressed information to a decoder, along with a code
3 word that indicates which compensator was used. You can see
4 my annotation at the lower level. Coder 1 corresponds to a
5 16-by-16 block size, using single motion vector; Coder 2,
6 eight-by-eight block size using multiple motion vectors. In
7 this way the decoder can correctly interpret the information
8 it receives.

9 Q In your opinion, what is the technical value of the Krause
10 patent family to the H.264 standard?

11 A The Krause family is fundamental to prediction in the
12 H.264 standard. It underlies just about any other adaptive
13 prediction that can be done. And it is because different
14 types of image content are better compressible by different
15 types of motion compensators. And allowing different motion
16 compensators to be used very much improves the overall
17 performance of the coder for compression.

18 Q And how do these patents relate to progressive and
19 interlaced video?

20 A Well, the Krause patent is agnostic. It doesn't depend on
21 whether content is progressive or interlaced to frame coded
22 or field coded. Any decoder that practices H.264 must use
23 the Krause family.

24 Q Let's turn to the Wu family. Do you have a demonstrative
25 for the Wu family?

1 A Yes, I do.

2 Q Using Exhibit 5050, please explain the Wu '968 patent?

3 A The Wu patent teaches using three different compression
4 modes to compress a given image region. It chooses the one
5 with the best compression. So here I have illustrated three
6 modes that are different by virtue of using different block
7 shapes and orientations, a four-by-eight rectangle and an
8 eight-by-four rectangle and a mixture of these two. So Wu
9 teaches to do compression with these three modes, then to
10 determine which gives the best compression, and to send the
11 results of that compression, together with overhead data,
12 indicating which compression mode was used, so that the
13 decoder can decode the information properly.

14 Q Now, in your opinion, what is the technical value of the
15 Wu patent family of H.264?

16 A The technical value of Wu is considerable. Every decoder
17 that processes H.264 must make use of Wu. As I said with
18 Krause, images are -- sequences are comprised of very
19 different types of content. And being able to choose a
20 compression mode that gives better compression than other
21 modes in a set allows a very significant benefit, in terms of
22 compression in the number of bits that have to be sent.

23 Q Does the decoder that processes progressive or interlaced
24 H.264 video have to use the Wu family?

25 A Any such decoder, yes, as I said.

1 Q Let's turn to the Eifrig family. Do you have a
2 demonstrative for the Eifrig family?

3 A Yes, I do.

4 Q Please show Exhibit 5051, and explain the Eifrig '980
5 patent, sir?

6 A Eifrig relates to spatial prediction of motion vectors.
7 We have a subject block 700 here, for which we would like to
8 get a motion vector predictor. And surrounding blocks 712,
9 722 and 732 already have available motion vectors MV-1, MV-2
10 and MV-3 that we can examine.

11 So we form a predictor, which I have indicated in dark red
12 for the block 700, using the information in the three motion
13 vectors, MV-1, MV-2 and MV-3. And this combination of three
14 blocks, these block locations relative to the subject block,
15 give a very good basis for estimating the prediction motion
16 vector.

17 Q In your opinion, what is the technical value of the Eifrig
18 family to the H.264 standard?

19 A It pertains to a core element of prediction where
20 interlaced material is involved at all. It can also be mixed
21 field and frame-coded material. It significantly improves
22 the coding gain over other choices of blocks for motion
23 vector prediction.

24 Q Let's turn to the macroblock adaptive frame/field coding
25 family, MBAFF. Do you have a demonstrative to explain that

1 family, sir?

2 A Yes, I do.

3 Q Using Exhibit 5052, please explain the '596 Wang patent?

4 A The '596 patent teaches the use of macroblock pairs to
5 perform MBAFF, wherein two macroblocks are either separated
6 into their individual field parities, or they are not. And
7 with this approach, it gives -- with macroblock pair MBAFF,
8 is the availability of the block sizes for interlaced coding
9 that I have highlighted here, the 16-by-16 and the 8-by-16
10 block sizes.

11 The big block sizes are very important, because there is a
12 lot of image content that has uniform and smoothly-moving
13 regions. Such image content is efficiently encoded using
14 large block sizes. So if you give that up, and you use, for
15 example, single macroblock adaptive frame/field coding, then
16 you take a big hit in coding efficiency.

17 In fact, macroblock pair MBAFF was measured as exhibiting
18 a 28 percent coding gain over picture adaptive frame/field
19 coding by -- in a JVT report.

20 Q That was 18 percent.

21 A I'm sorry. 18 percent. I beg your pardon.

22 Q What is the technical value of the MBAFF family to H.264?

23 A Well, it relates to important core features of frame/field
24 coding and prediction. It provides a substantial coding
25 gain. It is used in -- as I will discuss later, it is used

1 in H.264 profiles at levels 2.1 to 4.1 that are essential for
2 -- or at least very heavily used for standard definition and
3 high definition coding.

4 Q Let's turn to the PAFF family. Do you have a
5 demonstrative for the Wang '087 patent?

6 A Yes, I do.

7 Q Using Exhibit 5053, please explain the Wang '087 patent.

8 A This graphic was composed analogously to Figure 11 of that
9 patent, I believe, if I've got the number right. It shows
10 that we can have two motion vectors pointing in the same
11 direction, both toward the future, in order to predict a
12 given block. We can also have both pointing to the past.
13 And this is an increase in prediction flexibility over the
14 prior art approach of having one motion vector point forward
15 and one point backward.

16 Q In your opinion, what is the technical value of the PAFF
17 family to H.264?

18 A This family relates to core features of frame/field coding
19 and prediction. It provides a substantial gain over the
20 prior art version of PAFF. It is, again, used in the
21 profiles and levels that are necessary for handling standard
22 definition and high definition content in H.264.

23 Q Finally, let's turn to the scan patent family. Do you
24 have a demonstrative for scan?

25 A Yes, I do.

1 Q Using Exhibit 5054, please explain the Wang '094 patent?

2 A The '094 patent is a scan path for converting a
3 two-dimensional array of frequency coefficients to a
4 one-dimensional array, which is groomed particularly well for
5 good performance and entropy coding. That is the advantage
6 of this scan path over others. So this relates to any
7 field-coded material, whether it is progressive or interlaced
8 as initially captured. It just matters that it is field
9 coded. And this was found to provide up to a seven percent
10 gain over zig-zag patterns that were used as a benchmark
11 during tests.

12 Q And what is, in your opinion, the value of the scan patent
13 family?

14 A Well, it improves the coding efficiency in general for any
15 field-coded content, and allows entropy coders to perform
16 better.

17 Q And what core feature is this related to?

18 A This is the scan and quantization feature.

19 Q Now, let's turn to Microsoft's products as they relate to
20 Motorola's H.264 patents. Please summarize your opinion on
21 whether Microsoft's products use Motorola's patents?

22 A Motorola's patents are widely used in many of Microsoft's
23 products.

24 Q And what did you do to reach that opinion, sir?

25 A Well, I looked at Microsoft's own descriptions of its

1 products that claimed or advertised compatibility with H.264.
2 And then I examined either, for example, Microsoft's website,
3 or I performed tests on the products myself to determine that
4 those elements of H.264 were being practiced, and in
5 particular those elements that were covered by the Motorola
6 patents.

7 Q Have you prepared a chart reflecting your analysis of
8 Microsoft's use of H.264 in its products?

9 A Yes, I have.

10 Q Let's show Exhibit 5055. Please explain for the court
11 what this chart shows?

12 A On the left I have listed a number of Microsoft's
13 products, starting with the Xbox 360. In the center column
14 is a summary of the profiles and levels of the H.264 standard
15 that these products practice, in my opinion. On the right is
16 support for my opinion from various exhibits from Microsoft's
17 website.

18 Q And if you would, could you go through those?

19 A For the Xbox 360, my opinion is supported by Exhibit 937,
20 which states that Xbox supports H.264 at the baseline, main
21 and high profiles, up to level 4.1. And then for the
22 versions of Windows, Windows 7, Windows 8 and Windows Vista,
23 Exhibit 2042 shows that these products support baseline, main
24 and high profile decoding up to level 5.1.

25 Going further, onto the next page, Windows embedded is

1 supported by my -- my opinion is supported by Exhibit 1489.

2 And going further, other products -- my opinion is
3 supported by Exhibit 640, 936, 641, 2176 and 2174.

4 MS. HIGGINS: Motorola offers Exhibit 1489.

5 MR. PRITIKIN: I will have to find it. No objection.

6 MS. HIGGINS: Motorola --

7 THE COURT: Counsel, you have to -- It is admitted.
8 (1489 admitted.)

9 MS. HIGGINS: Motorola offers 640, which is the Zune
10 website.

11 MR. PRITIKIN: No objection.

12 MS. HIGGINS: Offer 641, which is link --

13 THE COURT: It is admitted.
14 (641 admitted.)

15 MS. HIGGINS: Offer Exhibit 936, which is Linc.

16 MR. PRITIKIN: No objection.

17 THE COURT: It is admitted.
18 (936 admitted.)

19 MS. HIGGINS: Offer Exhibit 1489, which is Windows
20 embedded.

21 THE COURT: I believe that is already admitted.

22 MS. HIGGINS: Offer Exhibit 2174, which is
23 Silverlight.

24 MR. PRITIKIN: No objection.

25 THE COURT: Admitted.

1 (2174 admitted.)

2 MS. HIGGINS: Offer 2176, which is Skype.

3 MR. PRITIKIN: No objection.

4 THE COURT: It is admitted.

5 (2176 admitted.)

6 MS. HIGGINS: I skipped 641, which is Linc. 936 is
7 Windows phone. So offer 641.

8 MR. PRITIKIN: I thought 641 was already admitted.
9 But I have no objection.

10 THE COURT: It is admitted if it has not been
11 already.

12 (641 admitted.)

13 By Ms. Higgins:

14 Q Dr. Drabik, this chart, which is 5058, talks about
15 profiles and levels. Did you prepare a demonstrative to
16 explain what profiles in the standard are?

17 A Yes, I did.

18 Q Using Exhibit 5059, can you please explain the baseline,
19 main, high profiles?

20 A This is an annotated figure from the Marpe paper,
21 Exhibit 574. Profiles are a set of features or coding tools
22 that are supported by decoders that conform to that profile.

23 The baseline profile must be supported by any H.264
24 decoder. I have encircled that in yellow.

25 The main and high profiles I have encircled in red and

1 blue, respectively. And they contain additional coding
2 tools, for example, the field coding tools MBAFF and PAFF,
3 that are especially important for standard definition and
4 high definition broadcasting.

5 Q Now, do you have a demonstrative --

6 A I'm sorry. Levels relate to the -- essentially to the
7 hardware and performance capabilities that decoders must be
8 able to handle, for example, levels 2.1 to 4.1 of the main
9 and high profiles include Motorola's interlaced coding tools.

10 Q Now, do you have a demonstrative to explain how Motorola's
11 patents relate to these profiles and levels that you were
12 just discussing?

13 A Yes, I do.

14 Q Using Exhibit 5060, please explain this chart.

15 A I have already read the exhibit numbers for four of these
16 patent families. The Krause and Wu patents conform to the
17 baseline, main and high profile. Fifteen of the 16 patents
18 support the main and the high profile, or relate to the main
19 and high profile. And all 16 relate to the high profile.

20 Q Now, do you have a demonstrative that you prepared to
21 explain how Microsoft's compliance with the baseline, main
22 and high profiles relate to Motorola's patents?

23 A Yes, I have.

24 Q Let's show Exhibit 5061. Please explain your exhibit,
25 sir?

1 A Well, I have Microsoft products along the top. And it is
2 clear that the Xbox, all the Windows products, including
3 Windows embedded and Windows phone 7 practice all the
4 Motorola patents in all of the families. The Zune practices
5 15 of the 16, and the Linc, Skype and Silverlight practice
6 Krause and Wu.

7 Q Now, you mentioned that you had performed tests earlier in
8 connection with your opinion. What tests did you perform to
9 verify whether Microsoft's products use Motorola's patents?

10 A I played -- on Windows and Xbox, for example, I played
11 interlaced videos from the internet on those products.

12 Q For Windows 7, can you explain how you performed those
13 tests on Windows 7?

14 A Well, I put the video clip on a machine running Windows 7,
15 and I used a utility called -- the name is escaping, Elecard
16 StreamEye software that reveals the structure, the macroblock
17 structure of the pictures and video stream --

18 THE COURT: The name of the technique you used, or
19 machine?

20 THE WITNESS: There is a piece of software, Elecard
21 StreamEye software.

22 THE COURT: Can you spell that for us?

23 THE WITNESS: E-L-E-C-A-R-D is the company name, I
24 think. I think StreamEye is spelled as one word.

25 I used it to identify a picture in the video stream for

1 each of these -- for any clip that I played that had both
2 frame and field content. And then I generated screenshots
3 that showed the macroblock structure of frame and field
4 macroblocks in that picture.

5 By Ms. Higgins:

6 Q What video did you play?

7 A Well, for example, I played a video of Katy Perry from the
8 BBC.

9 Q Please turn to Exhibit 2230. Can you explain what this
10 is, sir?

11 A This is a screenshot of a download site advertising the
12 Katy Perry video. There is a lot of information about the
13 video on this page. There is an annotation for scan type
14 that reveals it as MBAFF, macroblock adaptive frame/field
15 coding.

16 Q Did you analyze the Katy Perry video downloaded from this
17 website to verify whether it was MBAFF?

18 A Yes, I did that with the Elecard software.

19 MS. HIGGINS: Offer Exhibit 2230, the website.

20 MR. PRITIKIN: No objection.

21 THE COURT: It is admitted.

22 (2230 admitted.)

23 By Ms. Higgins:

24 Q Now, please refer to Exhibit 2183. What is this exhibit?

25 A These are screen shots from -- that were created by the

1 Elecard software, and various color dots are indications
2 about what type of macroblock we are looking at. They are
3 also pull-down windows of information about particular
4 macroblocks that show field top and bottom macroblocks of an
5 MBAFF coded field pair.

6 Q Thank you, Dr. Drabik. Did you also test the Xbox?

7 A Yes, I did.

8 Q What did you do there?

9 A I used Xbox as an extender to Windows Media Center, and I
10 played videos on the Xbox.

11 Q Did you play both progressive and interlaced video?

12 A Yes, I did.

13 Q And did you play video using a USB drive?

14 A In addition to the extender approach, I also inserted a
15 USB key into the Xbox to have an interlaced video clip on it,
16 an MBAFF video clip.

17 Q Other than USB, did you do any tests with AT&T U-verse?

18 A Yes, I did. I played a clip on the Xbox that was provided
19 to me that had come from AT&T U-verse, and verified that was
20 an MBAFF clip.

21 Q Now, we heard Mr. Del Castillo testify that Internet
22 Explorer on the Xbox does not support H.264 interlaced
23 content. Do you agree with that?

24 A I disagree. In fact, yesterday I --

25 MR. PRITIKIN: Your Honor, I am going to object to

1 this as beyond the scope of the expert report. This is not
2 in any of the expert reports that were provided.

3 MS. HIGGINS: Two things, your Honor. First of all,
4 it is rebuttal testimony. And also, Internet Explorer is a
5 very new feature on the Xbox that just recently came out.
6 And so it was after Dr. Drabik's reports. We would like
7 to have him --

8 THE COURT: You needed to file an amended report. I
9 will permit it as rebuttal testimony.

10 By Ms. Higgins:

11 Q Please explain what you did, sir.

12 A By using Internet Explorer running on the Xbox, I accessed
13 a website called www.FindThatFile.com. And it has a very
14 easy search procedure. I searched using the keys H.264 space
15 MBAFF, and also the keys H.264 space PAFF. And that
16 immediately turned up video clips of interlaced video using
17 MBAFF and PAFF, and they played on Internet Explorer on the
18 Xbox. And I actually observed some interlacing artifacts on
19 those clips.

20 Q Let's turn to some of Professor Orchard's testimony. He
21 testified that the claims of the Krause and Wu patents do not
22 read on software decoders. Do you agree with that?

23 A No, I disagree. One of ordinary skill in the art would
24 not make that -- would not hold that opinion. Krause and Wu
25 use the term "algorithm" in their specifications. And one of

1 ordinary skill is simply used to seeing algorithms presented
2 in such a fashion.

3 MS. HIGGINS: Your Honor, I forgot to offer the Katy
4 Perry screenshots, which are Exhibit 2230.

5 MR. PRITIKIN: No objection.

6 THE COURT: Permitted.

7 (2230 admitted.)

8 MS. HIGGINS: And also 2183. It is up on the screen.

9 MR. PRITIKIN: I don't know what this is. It is
10 different from the 2183 in the exhibit notebook.

11 MS. HIGGINS: Can you turn to the first page? I
12 think that is the confusion. It is the same exhibit. What
13 I'm offering is the full Exhibit 2183 that is in the binder,
14 which are the screenshots of the Katy Perry video.

15 MR. PRITIKIN: I think the confusion is that this
16 appears to be a part of 2183. This part we do not have an
17 objection to. As to the rest of it, I think we would need to
18 go over it and see. There has been no testimony on the rest
19 of it.

20 MS. HIGGINS: We are offering Exhibit 2183, starting
21 at Bates 601469, turn to the last page of the document,
22 through 601477.

23 MR. PRITIKIN: We are fine with that.

24 THE COURT: Those particular portions of the exhibit
25 are admitted.

1 MS. HIGGINS: Thank you, your Honor.

2 (2183 admitted.)

3 By Ms. Higgins:

4 Q Professor Orchard also testified that it would be a
5 mistake to use interlaced coding tools, such as MBAFF or
6 picture level AFF on progressive video. Do you agree with
7 that?

8 A No, I disagree. In fact, interlaced format is used to
9 represent progressive video in a format called progressive
10 segmented frame.

11 THE COURT: Say that again.

12 THE WITNESS: It is progressive segmented frame, your
13 Honor. It is used to represent and transport progressive
14 video in a way that looks exactly like interlaced video. And
15 when that is coded, interlaced coding tools are used and
16 offer benefit in compression.

17 So I have identified a number of products that support
18 both H.264 and progressive segmented frame. There is many
19 camcorders, Canon makes some in particular, and there are
20 encoder boxes by companies like Optibase, Zodiac and Roland
21 and others that produce this content. It is also
22 standardized. There is an ITU standard that supports this.
23 So I disagree.

24 As I learned also in discussions with Dr. Limin Wang and
25 Ajay Luthra, interlaced coding or field coding of progressive

1 content has compression advantages. For one thing, one
2 segment, which looks a lot like a field, since these two
3 segments were captured at essentially the same time, instead
4 of a 60th of a second apart, which is typically the case with
5 interlaced video, one is a very good predictor for the other,
6 and that improves the efficiency of prediction.

7 Also, a video stream must contain i-pictures with at least
8 a certain density. And i-pictures don't compress as well as
9 b-pictures or p-pictures. And having an i-picture only
10 required half the content for the odd lines or the even lines
11 rather than all the content, which leads to an economy in
12 bits that have to be transmitted.

13 By Ms. Higgins:

14 Q Let's turn to Orchard's opinions on alternatives. And
15 first I would like to start with the Krause family and the
16 '423 patent, which is 5062. What is your opinion with
17 respect to the '423 patent, Exhibit 1477, as an alleged
18 alternative?

19 A Well, it can't perform as well. Whereas Krause uses two
20 motion compensators and picks the one with the best
21 compression, the '423 patent does not determine any optimum.
22 It also sends motion vectors for both block sizes that are
23 used. So that is a little bit profligate, in fact, as far as
24 sending bits.

25 Q Now, let's turn to 5063. This is Orchard's ultimate

1 opinion on the Sullivan thesis, Exhibit 618. Did you agree
2 with Dr. Orchard with respect to that?

3 A No, I disagree. The Sullivan thesis teaches coding only
4 square blocks. A rectangular region would have to be divided
5 into two square blocks, each of which would require its own
6 motion vectors. So this must require more motion vectors
7 than rectangular boxes, which can be coded directly by
8 premise, and therefore cannot perform as well.

9 Q Let's turn to Exhibit 5064. What is your opinion on the
10 CCITT 453?

11 A CCITT cannot perform as well. Unlike Krause, it does not
12 compare a plurality of motion compensators and select the one
13 using the best compression. There is -- CCITT 453 is silent
14 or almost silent as to any criteria for selecting a mode.

15 Q Let's turn to Exhibit 5065 with respect to the Puri paper.
16 What is your opinion here, sir?

17 A Puri cannot perform as well because, again, it does not
18 compare a plurality of motion compensators to determine which
19 gives the best compression. It makes adaptation decisions on
20 the basis of motion detection, which is not the same as
21 making the optimal choice for compression.

22 Q Now, the next slide, which is 5066, the Wu family,
23 Dr. Orchard identified the same references, Sullivan thesis
24 and Puri papers. Is your opinion the same with respect to
25 those references?

1 A Yes. As I said before, for Sullivan, only square boxes
2 are supported, and the rectangular region that could be
3 encoded with a singular motion vector by Wu requires two. In
4 Sullivan it can't be performed as well.

5 Q Let's turn to Microsoft's patents. Have you prepared an
6 exhibit that contains your opinions regarding Microsoft's
7 patents?

8 A Yes, I have.

9 Q Turn to Exhibit 5074. Please explain your opinions on
10 Microsoft's patents, sir.

11 A Well, first of all, two of those patents are not
12 essential, because they don't read on to the H.264 standard.
13 Those are Exhibits 855 and 890. For example, one of them
14 makes use of an aggregation or combination of prediction
15 modes, which isn't in the standard, and another calls out
16 some specific arithmetic procedures, which are not in the
17 standard.

18 A further 15 of Microsoft's patents are directed to things
19 that are optional, that need not be practiced by any H.264
20 encoder -- or decoder --

21 Q Dr. Drabik, can you explain your next three opinions,
22 please?

23 A I beg your pardon?

24 Q Can you continue with 3, 4 and 5, please?

25 THE COURT: I think she just cut you off.

1 THE WITNESS: Yes. I can read the exhibit numbers or
2 I can let them go.

3 THE COURT: They are in the exhibit.

4 By Ms. Higgins:

5 Q Explain your opinions with respect to 3, 4 and 5, sir?

6 A There were comparable alternatives to Microsoft's five
7 transform quantization patents and to its Two start coded
8 emulation prevention patents. Five of Microsoft's patents
9 are directed to minor aspects, coded block pattern, skipped
10 macroblocks or deblocking. And three of Microsoft's patents
11 relate only to the extended profile, which is very little
12 used.

13 MS. HIGGINS: Thank you, Dr. Drabik. Pass the
14 witness.

15 CROSS-EXAMINATION

16 By Mr. Pritikin:

17 Q Good morning, Dr. Drabik. Now, you said on direct that
18 you had compared a representative claim to the standard. Do
19 you recall that testimony?

20 A Yes, I do.

21 Q And you also gave some testimony about how various
22 Microsoft products you said practice certain of these
23 patents. Do you recall that testimony?

24 A Yes, I do.

25 Q Now, it is correct, is it not, that you didn't show the

1 court any claim charts on your direct examination?

2 A Well, I showed claim charts, but not of the rigorous
3 infringement type that I would create for an infringement --
4 for a hearing that is about infringement per se.

5 Q You know what a claim chart is, because you have been a
6 witness in dozens and dozens of patent cases?

7 A I wouldn't say dozens and dozens.

8 Q And Exhibit 5061, with all the checkmarks, is this what
9 you are calling a claim chart?

10 A I can't really see what you are holding up.

11 Q Now, the reason that we didn't have any claim charts --
12 And we didn't hear any testimony about claim construction
13 either, on direct, did we?

14 A No, I don't recall getting any.

15 Q The reason we didn't hear about it is because you did not
16 perform a meticulous infringement analysis?

17 A I applied a claim construction that was informed by the
18 patents, the file history, Judge Robart's claim construction,
19 Judge Shaw's decision in the ITC, and also the German
20 decision. And that's what I used for claim construction.
21 And I applied those -- that information -- my understanding
22 of the claims obtained in that fashion to the question of
23 whether Motorola's patents are practiced by Microsoft
24 products.

25 Q But we didn't hear about all that this morning, did we?

1 A I gave my conclusions.

2 Q And it is true, isn't it, that you did not perform a
3 meticulous infringement analysis? The word "meticulous" was
4 your word, right?

5 A I don't recall whether that was my word or not.

6 Q Could you take a look at your deposition?

7 THE COURT: It is there somewhere, I'm sure.

8 By Mr. Pritikin:

9 Q Would you turn, please, to Page 16. Beginning at Line 4,
10 Dr. Drabik, you were asked, "Can you point me to a place in
11 your report where you articulated the construction of a claim
12 term and then used that construction in your analysis?"

13 Answer: "Well, on Page 39 I cite the finding of the German
14 court with regard to the '968 patent, that macroblocks
15 consisting of 16-by-16 pixels correspond to super blocks, and
16 I interpret for the purpose of reading onto the standard of
17 the MBAFF standards -- I beg your pardon, I have to find it,
18 smaller, smaller portions being macroblock pairs. However,
19 my reading onto the standard does not depend on that
20 particular construction of macroblock.

21 I was not asked to perform a meticulous infringement or
22 validity analysis. I was asked to ascertain the utility of
23 patents to the H.264 standard, and I've -- that's -- that was
24 the focus of this report." Were you asked that question and
25 did you give that response at your deposition?

1 A Yes, I did.

2 Q Now, when you talk about value, you are not talking about
3 specific monetary value associated with a royalty for the
4 patents, are you?

5 A No. I think I made that clear in my deposition.

6 Q Let's talk a little bit about the development of the H.264
7 standard. You looked at the Motorola proposals that were
8 submitted in connection with H.264?

9 A I looked at a lot of things. I looked at a lot of
10 submissions.

11 Q And you cited some contributions in your report?

12 A I believe so.

13 Q And those were all related to field coding, right?

14 A I would have to go back and check. I can't verify that at
15 the moment.

16 Q Would you look at Page 68 of your deposition, starting at
17 Line 7? "The six contributions are related to --" Excuse
18 me, up above that. I think the question is on Line 4.

19 "Well, you cite six contributions in Paragraph 47. Those all
20 focused on field coding, didn't they?" Answer: "These six
21 contributions are related to field coding, yes." Were you
22 asked that question and did you give that response?

23 A I did, yes. Also the answer in Lines 11 to 15.

24 Q Now, at your deposition you could not provide us with a
25 single example of a Motorola contribution that did not relate

1 to field coding, right?

2 A I did not provide one then, no.

3 Q Now, let's talk a little bit about the MBAFF patents. Of
4 the 16 that you said are essential, eight of them are related
5 to MBAFF, right?

6 A I believe that's correct, yes.

7 Q And those relate to interlaced coding?

8 A Those relate to field coding, which can be used for
9 progressive or interlaced material.

10 Q MBAFF is a form of --

11 A I beg your pardon. Also to frame coding, because it is a
12 mixture of the two.

13 Q MBAFF is a form of adaptive frame/field coding?

14 A Yes, that's correct.

15 Q And you are not suggesting to the court that Motorola
16 invented the concept of adaptive frame/field coding?

17 A Motorola invented what is within the scope of those eight
18 patents, which is macroblock pair adaptive frame/field
19 coding. As I said in my deposition, I don't know that
20 Motorola did not invent the concept of frame/field coding,
21 because I don't know its origins.

22 Q But you are not offering an opinion that Motorola invented
23 adaptive frame/field coding, correct?

24 A That's correct.

25 Q Now, you don't know what percentage of interlaced H.264

1 content is coded using adaptive frame/field coding, right?

2 A I don't specifically have a number, no.

3 Q Now, Professor Orchard told us that during the development
4 of the H.264 standard, the next best alternative to paired
5 macroblock MBAFF was single macroblock. Do you recall that
6 testimony?

7 A Yes, I do. I disagree with it.

8 Q He also said that Motorola had not compared its proposed
9 MBAFF with what he considered the next best alternative. Do
10 you recall that testimony?

11 A I think he may have said something like that.

12 Q Now, you agree with Professor Orchard, that during the
13 development of the H.264 standard, Motorola in fact compared
14 its paired macroblock approach with PICAFF to demonstrate
15 that there was some coding efficiency in its approach, right?

16 A That's right. There was an 18 percent improvement.

17 Q As compared to PICAFF?

18 A That's right.

19 Q Let's turn to the PICAFF patents. There were three of
20 them you considered?

21 A I think that's right.

22 Q And the claims you analyzed combined PICAFF with another
23 feature?

24 A I think generally that is true. I would have to look at
25 them.

1 Q And, again, you are not asserting that Motorola invented
2 the concept of PICAFF or made the seminal contributions to
3 PICAFF?

4 A It made the contributions that led to the adaptation of
5 the Motorola version of PICAFF into H.264.

6 Q That wasn't exactly the question I asked you, sir. You
7 are not offering an opinion that it was Motorola that
8 invented the concept of PICAFF or that made the seminal
9 contributions to PICAFF, right?

10 A I don't know who invented PICAFF, so I can't assert that
11 Motorola did or didn't. However, I would disagree with the
12 portion of your question related to seminal contributions,
13 because I think Motorola's improvements were seminal
14 contributions.

15 Q Would you turn to Page 64 of your deposition, please? And
16 let's look at Line 8. Question: "And Motorola did not
17 invent the concept of PICAFF, did it?" Answer: "I'm not
18 sure who made the seminal contributions to PICAFF. I am not
19 asserting that Motorola made the seminal contributions to
20 PICAFF, whenever that might have been." Were you asked that
21 question and did you give that response?

22 A I used that word. But we are talking in a different
23 context here.

24 Q Let's talk now about the Wang scan patents. The scan
25 pattern is used for interlaced coding?

1 A It is used for field coding, which may be either
2 progressive or interlaced.

3 Q Now, there were alternatives to the scan patterns proposed
4 by Motorola, the earlier zig-zag patterns used for
5 progressive video and the interlaced scan pattern proposed by
6 Sony?

7 A Those were being considered at the time. The Sony pattern
8 was rejected on the basis of insufficient improvement in
9 coding gain.

10 Q Now, in your expert report, you did not include a
11 comparison of the Sony scan results with the Motorola scan
12 results, did you?

13 A No, I didn't feel the need to.

14 Q Let's talk about the Eifrig patent for a minute. Were you
15 here when Dr. Luthra testified about that?

16 A Yes, I was.

17 Q And it is limited to field coding for interlaced video,
18 right?

19 A Again, it is limited to field coding and mixed frame/field
20 coding. Because the limitation is that one of the blocks
21 being considered must be field coded. So it can relate to
22 progressive or interlaced content.

23 Q Would you turn to Page 84 of your deposition, sir,
24 beginning at Line 12? "Now, the patent is limited to
25 situations in which field coding is named on?" Answer: "I'm

1 sorry. I was looking for the Eifrig patent in my report.
2 Beg your pardon. Okay." Question: "You agree?" Answer.
3 "I'm sorry. The question was it relates to field coding?"
4 Question. "Yes. It is limited to field coding?" Answer:
5 "Yes, it's for interlaced video." Were you asked those
6 questions and did you give those responses in your
7 deposition?

8 A I did. I have to add the distinction between field and
9 interlaced has become quite a bit sharper in the course of
10 this case than it was initially.

11 Q Let's take a look at our Exhibit 4024. And this is a
12 demonstrative that was used with Dr. Orchard. Do you recall
13 that?

14 A Yes.

15 Q And the Eifrig patent suggests you use the blue shaded
16 boxes?

17 A That's right.

18 Q Now, the prior art in progressive video, those same boxes
19 were used, right?

20 A That's right. The Eifrig patent teaches how to do this in
21 a mixed interlaced -- in a mixed field code/frame coded
22 context where information in the macroblocks can move around
23 between pairs. It is not at all the same thing as what you
24 would need to do in H.263. It requires innovation to
25 implement that.

1 Q Let's be clear on this. Those three blocks were used in
2 progressive video, and what the Eifrig inventors did was say,
3 let's take the same three blocks and let's use them in
4 interlaced; is that correct?

5 A It is, take the same three blocks and let's figure out how
6 to use them in a mixed field/frame coded environment, which
7 is combining those things is the novelty and actually the
8 difficult part.

9 Q And in your deposition you said that it would have been
10 intuitive to do this to a person of ordinary skill in the
11 art; do you recall that?

12 A I don't recall that. It might have been intuitive to use
13 the same blocks.

14 Q Now, you also gave some testimony about the Wu and Krause
15 patents. Do you recall that?

16 A Yes.

17 Q And about, I gather, how important you consider them to
18 be. The Wu '968 patent, which you said has considerable
19 technical value, that's going to expire in March of next
20 year, right?

21 A I suppose that's so, yes.

22 Q And the Krause '419 patent, which you said was very
23 valuable, I think those were the words you used, that expired
24 over a year ago, in October of 2011, the U.S. patent, right?

25 A That is my understanding.

1 Q And you gave some testimony this morning about how these
2 interlace tools can be used for progressive video. Do you
3 recall that testimony?

4 A I do, yes.

5 Q And there was nothing about that in your expert report,
6 was there?

7 A Well, I only started looking at it after Professor Orchard
8 made mention of coding progressive material using interlaced
9 coding materials.

10 Q And what you did --

11 A That was after -- I believe that was after my report.

12 Q Let's see what you did. The day before your deposition
13 you were told by a Motorola employee, Limin Wang, that people
14 could use interlaced coding tools to encode progressive
15 video, right?

16 A No, that is not correct. I had a discussion about that
17 with Dr. Wang in Washington, D.C. in January of this year.
18 It doesn't mean I didn't have that discussion. I had more
19 than one discussion --

20 Q At any rate, your conversations were with Wang? That's
21 the point I'm asking you about.

22 A The conversations I said were with Wang were with Wang,
23 yes.

24 Q Now, when you learned this from Wang, this was new
25 information to you, that people were using PICAFF for

1 progressive video, right?

2 A Well, it wasn't new after January, no. What --

3 Q That wasn't my question, sir. The question was, when you
4 heard this from Mr. Wang or Dr. Wang, it was new to you then,
5 you hadn't heard it before?

6 A I suppose that's so, yes.

7 Q In the conversation you had with him, when we asked you
8 about this in your deposition, he didn't give you the names
9 of any companies that were actually doing this, did he?

10 A That wasn't what we were talking about. We were talking
11 about coding efficiency and choices for coding progressive
12 video.

13 Q Right. He told you potentially there could be some
14 benefit there. My question is, he didn't give you the names
15 of any companies that actually do this, did he?

16 A No. I mean, it wasn't relevant to our discussion at the
17 time. As I said, the topic was about coding efficiency. He
18 did say in January that this was widely done. He didn't talk
19 about possibilities. He said that it was widely practiced.

20 Q Could you answer my question? Did he give you the names
21 of any companies that actually do it?

22 A No. I thought I had answered that. I beg your pardon.

23 Q You say he told you about this in January 20, 2012, but
24 you didn't put it in your expert reports in this case, right?

25 A What I didn't put in my expert reports was anything

1 related to the standard of progressive segmented frame. That
2 is not the same thing.

3 Q All right. Let's go back to what Dr. Wang told you. He
4 didn't give you any video streams that have actually done
5 this?

6 A No, I didn't ask him for any.

7 Q He didn't direct you to any on the internet, did he?

8 A No, I didn't ask for that from him.

9 Q He didn't direct you to any engineering or scientific
10 publications that have discussed using these interlaced
11 coding tools for progressive video, right?

12 A He, in that discussion, did not do so, no.

13 Q And at the time of your deposition, you were not aware of
14 any technical journals or articles or publications that
15 suggested the use of interlaced coding tools for progressive
16 video, right?

17 A I believe what I said in my deposition was that I had
18 found some products that supported PsF with H.264. And with
19 regard to the other things you asked about, no, I didn't cite
20 any of those. I cited in my deposition what I thought was
21 significant, that there were products out there that
22 supported this modality of conveying progressive video.

23 Q Sir, the question I asked you was whether you were aware
24 at your deposition of any technical journals or articles or
25 publications that suggested the use of interlaced coding

1 tools for progressive video. And the answer to that question
2 is simply no, is it not?

3 A I don't recall giving any at my deposition, apart from
4 what I have already mentioned regarding products.

5 Q And it is also true, is it not, that you are not aware of
6 any instance in which any Microsoft product has been used to
7 decode progressively captured video that was compressed using
8 field coding?

9 A At that time, no.

10 Q Now, there has been testimony that there are around 2,500
11 patents in the MPEG LA H.264 pool. You did not compare the
12 importance of Motorola's H.264 patents with those patents,
13 did you?

14 A No. I don't know that anyone else has done that either.

15 Q And so therefore you are not offering an opinion as to
16 whether the Motorola patents are more or less important than
17 the 2,500 patents in the MPEG LA pool, right?

18 A I know that what I have testified to, and that is the
19 Motorola patents are necessary to practice certain elements
20 of H.264, which is done by Microsoft's products. I have not
21 made a comparison with thousands of patents. No, I have not
22 done that.

23 Q Let's talk a little bit more about that. You said that it
24 is essential. You have testified that there are products of
25 Microsoft that use H.264. When you say "use," you mean they

1 support the H.264 standard, right?

2 A That's right.

3 Q And you are not offering an opinion, for example, with
4 respect to interlaced video, how commonly it is really
5 encountered out there in the real world, you are simply
6 saying that the Microsoft products support it; isn't that
7 correct?

8 A I think -- I may or may not have said today that AT&T
9 U-verse is common. It sends interlaced content over H.264.
10 And if Microsoft's products did not support the appropriate
11 profiles and levels of H.264, they could not have this
12 partnership with AT&T U-verse. So I expect that it is -- I
13 mean -- just by way of answer, in some ways it doesn't matter
14 what fraction of content is interlaced. You need that in
15 order to have your partnership with AT&T U-verse.

16 Q I understand what you are saying. The question is, to be
17 clear on this, you didn't go out and try to figure out how
18 common interlaced video is on the internet, right?

19 A No, I didn't do a survey. Dr. Sukumar did that.

20 Q So you had examples of interlaced content that you
21 provided. But your purpose in providing those from the
22 internet was not to show that it was prevalent, but merely to
23 show that interlaced content could be found; isn't that
24 correct?

25 A Yes. That's what I found within the scope of what I was

1 able to do, practically.

2 Q And the samples that you testified about were given to you
3 by the lawyers?

4 A They were provided by counsel, yes.

5 Q You didn't go out yourself and search the internet to try
6 to find examples of interlaced H.264 content, did you?

7 A As I said, with regard to Internet Explorer, I did go to
8 FindThatFile.com to search for interlaced content, and found
9 it in about 30 seconds.

10 Q Found one example?

11 A Well, I only needed one example to illustrate my assertion
12 that the Xbox can play interlaced content off the web.

13 Q Now, you are not trying to give us the impression that
14 interlaced video is commonly used and is all over the
15 internet, are you?

16 A I certainly don't know anything to the contrary. I
17 believe it is commonly used.

18 Q Motorola's lawyers sent nine video demonstratives to us
19 that they said they might use during your testimony. I take
20 it you are familiar with those?

21 A I should be.

22 Q And those videos were encoded using H.264, right?

23 A I think so, yes.

24 Q And all nine of those videos were encoded in progressive
25 form, not interlaced, right?

1 A That, I don't recall.

2 Q And the reason they were encoded in progressive form is
3 because you were preparing them for use to be run on Windows
4 computers; isn't that right, sir?

5 A I haven't acknowledged the answer you yourself gave to the
6 previous question. I don't know that they were all
7 progressive.

8 MR. PRITIKIN: Nothing further, your Honor.

9 MS. HIGGINS: No questions, your Honor.

10 EXAMINATION BY THE COURT

11 THE COURT: Actually, I have a couple of questions.
12 Microsoft's witnesses said that all six families of Motorola
13 patents relate only to interlace. You have been careful to
14 say H.264 runs both progressive and interlaced. Do the
15 Motorola families apply to other than interlace?

16 THE WITNESS: The short answer is yes, your Honor. I
17 will explain exactly what I mean, if I can do it quickly. I
18 spoke of the sharper distinctions being drawn between frame
19 coded and field coded. I think the way interlaced and
20 progressive have come to be used in this trial is that
21 progressive content is content all of whose lines are
22 captured in a single class from top to bottom, and interlaced
23 content is content whose lines at some point of origin are
24 captured with first odd, for example, lines, and then even
25 lines, and typically with a time interval between them.

1 Well, if we put those two sets of lines together, we can't
2 tell without knowing where they came from whether that is a
3 progressive field or whether that is two interlaced -- I'm
4 sorry, progressive frame or two interlaced fields put
5 together. So the H.264 encoder can't tell that either. If
6 you give it a progressive field and turn some knobs on it, it
7 will code it any way you like -- I'm sorry, progressive
8 frame. And if you give it two fields, it will code it with
9 field coding.

10 So in that way the encoder is agnostic to whether it is
11 given progressive or interlaced, because all it knows is
12 whether it is getting full frames of information or field
13 segments of information.

14 And if you encode field segments, regardless of whether
15 those fields came from truly interlaced content, or whether
16 they are segments of a progressive frame, if it is field
17 coded, then the so-called interlaced coding tools will be
18 invoked, the field scan will be invoked, field prediction.
19 And if you turn on MBAFF in the encoder (inaudible). That's
20 how I would answer that question.

21 THE COURT: Counsel tried to get you to either be a
22 market expert or not a market expert in this area. I
23 understand you are talking about the technology, not what's
24 happening in the marketplace; is that correct?

25 THE WITNESS: That's right, your Honor.

1 THE COURT: For example, you can't tell me why Google
2 doesn't support interlaced coding for YouTube?

3 THE WITNESS: Well, I can't tell you market reasons,
4 but I know that everybody has an axe to grind, and
5 corporations have visions of where they would like to find
6 themselves. I suppose it is possible that if they are
7 promulgating a policy like that, then it might have something
8 to do with how they see the future.

9 THE COURT: All right. I won't ask any more
10 questions. You might want to reconsider that answer.

11 Counsel, anything further on redirect?

12 MS. HIGGINS: No, your Honor.

13 THE COURT: Counsel?

14 MR. PRITIKIN: No, your Honor.

15 THE COURT: We will be in recess until 10:00. Thank
16 you.

17 (Recess.)

18 THE COURT: Do we have Microsoft examining
19 Dr. Orchard, or Motorola?

20 MR. PRITIKIN: I believe they're finishing their
21 cross, Your Honor.

22 MR. PEPE: Yes, that's correct.

23 THE COURT: Welcome back, sir, you're still under
24 oath.

25 CROSS EXAMINATION (Cont.)

1 BY MR. ROWLAND:

2 Q Just a couple more questions, Dr. Orchard. Would you
3 please refer to your demonstrative Exhibit 4026. You see
4 that on the screen?

5 A Yes, I do.

6 Q In this demonstrative you didn't identify when anything
7 you labeled as a fundamental advance made by Microsoft was
8 added to the H.264 standard during its development, correct?

9 A No, this is just a list of the patents that contribute to
10 the H.264 standard.

11 Q All right. And you didn't identify any contributions by
12 Microsoft to the standard, that is, to the JVT or VCEG, as
13 part of any of your testimony?

14 A I believe I gave a high-level characterization but nothing
15 associated with individual patents.

16 Q And you didn't show whether or not any Microsoft
17 technology was included in the VCEG H.26L design as it
18 existed in the summer of 2001, right?

19 A No, I did not.

20 MR. ROWLAND: No further questions.

21 REDIRECT EXAMINATION

22 BY MR. PRITIKIN:

23 Q Just a couple of questions. Most of these relate to
24 testimony from last week, Dr. Orchard. You were asked in
25 cross about the use of H.264 in satellite TV and by cable

1 companies, do you recall?

2 A Yes.

3 Q And can Windows receive an H.264 television feed from a
4 satellite provider?

5 A Not to my knowledge, no.

6 Q Can Windows decode an encrypted H.264 television feed from
7 a cable provider?

8 A Not to my knowledge, no.

9 Q You were also asked about Blu-ray discs and their use of
10 H.264. Does either Windows or Xbox support Blu-ray?

11 A No, they don't.

12 MR. PRITIKIN: I have nothing further, Your Honor.
13 We may recall Professor Orchard later as part of our rebuttal
14 case.

15 THE COURT: I understand. Motorola may call its next
16 witness.

17 MR. ROGERS: Motorola calls Dr. Williams to the
18 stand.

19 TIM ARTHUR WILLIAMS

20 Having been sworn under oath, testified as follows:

21 THE CLERK: Will you state your name for the record
22 and spell your last name, please?

23 THE WITNESS: Tim Arthur Williams, W-I-L-L-I-A-M-S.

24 DIRECT EXAMINATION

25 BY MR. ROGERS:

1 Q Please state your name for the record.

2 A Tim Arthur Williams.

3 Q Your current employment, sir?

4 A I'm the CEO of Beach Technologies.

5 Q What is Beach Technologies?

6 A Beach Technologies is an intellectual property consulting
7 firm.

8 Q What's your educational background?

9 A I have a bachelor's in electrical engineering from
10 Michigan Technological University in 1976. I have a master's
11 in electrical engineering from the University of Texas at
12 Austin; a Ph.D. in electrical engineering from the University
13 of Texas at Austin. I graduated with my Ph.D. in 1985. My
14 specialization was communication systems and digital signal
15 processing. I also have an MBA from the University of Texas
16 at Austin.

17 Q Do you have any experience with patents?

18 A Yes. I have 26 issued patents that have my name on it as
19 the inventor, as well as I am a registered patent agent.

20 Q Do you have a curriculum vitae?

21 A Yes, I do.

22 Q Earlier, before you got to the stand, I asked you to look
23 at Exhibit 561. Is that your curriculum vitae?

24 A Yes, it is.

25 Q Does it accurately reflect your educational and employment

1 background?

2 A Yes, it does.

3 Q I move admission of Exhibit 561.

4 MR. PRITIKIN: No objection.

5 THE COURT: It's admitted.

6 (Exhibit No. 561 was admitted into evidence.)

7 Q Please describe your relevant professional experience,
8 particularly as it may relate to the WiFi or the 802.11
9 standard.

10 A Yes. I've been building radio data systems now since
11 1976. My first job out of undergraduate school was with
12 Motorola. And in Motorola I built a digitally-encrypted land
13 mobile radio system for police and fire departments.

14 In the 1980s I was part of a team that built the first GSM
15 chipset in the world, which is early digital cellular. In
16 the early 1990s I formed a company in Silicon Valley which
17 built digitally-provided radio delivery for subscriber units
18 for chipsets and for over-the-air protocols.

19 In the late '80s I was the interim CEO of a company called
20 Atheros. Atheros builds WiFi chipsets. Atheros was
21 important to the development of the 802.11 standard. And
22 Atheros eventually became the fifth largest semiconductor
23 company in the world, and was sold last year.

24 Following Atheros I formed another company, which was
25 called Cybeam, which is focused on delivering

1 gigabit-per-second wireless LAN technology to the
2 marketplace.

3 Q Did you have any involvement with the 802.11 standard?

4 A Yes. I attended meetings and reviewed contributions from
5 Atheros.

6 Q Based on your education and experience, are you generally
7 familiar with the 802.11 standard?

8 A Yes, I am.

9 Q What were you asked to consider in this case, Dr.
10 Williams?

11 A I was asked to review the Motorola patent portfolio, and
12 the Microsoft patent portfolio, to read and understand those
13 patents and to determine whether those patents were essential
14 to the practice of 802.11. And then I was asked to come up
15 with a relative technical value for those two patent
16 portfolios.

17 Q Did you form any opinions in connection with your
18 analysis?

19 A Yes, I did. I formed six different opinions.

20 Q Let me show you a slide of Exhibit 5088. Is this
21 something you prepared?

22 A Yes, it is.

23 Q Could you explain to the court what this is showing?

24 A This is a summary of my opinions in the case.

25 Q Would you please explain what they are?

1 A Yes. My first opinion is that Motorola has 24 patents in
2 23 different patent portfolios, or patent families. And
3 within each family is at least one patent with at least one
4 claim that is essential to the practice of 802.11.

5 My second opinion is that the essential patent portfolio
6 covers advances and core features of the 802.11 standard.
7 And it's technically very valuable.

8 My third opinion is that Microsoft's 802.11-compliant
9 products use these core features of the 802.11 standard which
10 are covered by Motorola's essential patent portfolio.

11 My fourth opinion is that the smallest saleable unit of
12 the 802.11-compatible Xbox units is the console.

13 My fifth opinion is that Motorola's 802.11 portfolio is
14 significantly more technologically valuable than Microsoft's
15 802.11 portfolio.

16 And my sixth opinion is there were no acceptable
17 alternatives to Motorola's 802.11 essential patents.

18 Q All right. In reaching your decision, your opinion
19 regarding essential patents, what definition of essential
20 patents did you use?

21 A I used the same definition that Dr. Gibson used, which is
22 the IEEE definition that comes from the IEEE bylaws.

23 Q Could I see Slide 5089, please? Exhibit 5089, is this the
24 definition of essential patent that you used that you said
25 came from the IEEE bylaws?

1 A Yes, it is. And the key points of this are that the
2 patent claim must be -- cover something that's either
3 mandatory or an optional portion of the clauses of the
4 standard, and that this was at the time of the proposed
5 approval of the standard, and that there were no commercially
6 or technically feasible non-infringing alternatives.

7 Q Exhibit 5 is a copy of the IEEE bylaws. Did you have an
8 opportunity before you got on the stand to look at that and
9 to determine whether that was the bylaws from which this
10 definition came?

11 A I did.

12 Q And was that the bylaws from which the definition came?

13 A Yes, it is.

14 MR. ROGERS: I move into evidence Exhibit 5, Your
15 Honor.

16 MR. PRITIKIN: No objection.

17 THE COURT: It is admitted.

18 (Exhibit No. 5 was admitted into evidence.)

19 Q So what methodology did you use in reaching your opinion
20 that Motorola has a portfolio of 23 patent families essential
21 to the 802.11 standard?

22 A Well, I read the Motorola patents, I read and understood
23 the claims of those patents, and I went through each and
24 every element of representative claims from those patents in
25 order to see how those representative claim elements matched

1 what's required in the 802.11 standard.

2 Q All right. And did you create a list of those patents
3 that you found to be essential?

4 A Yes, I did.

5 Q Take a look at Exhibit 5090. Does this slide include that
6 list?

7 A Yes, it does.

8 Q Can you please explain to the court what you are showing
9 on the left slide of Exhibit 5090, labeled the "core-enabling
10 functions"?

11 A This slide shows all 24 of Motorola's -- the patents in
12 Motorola's patent portfolio. On the left-hand side we see
13 patents that I have categorized as being core-enabling
14 function patents. Included within that group are 11 patents
15 that must be used in order to build a 802.11-compliant
16 device.

17 These patents include four different technology areas that
18 I'll talk about later. But the patents are Exhibit 171,
19 Exhibit 177, Exhibit 148, Exhibit 180, Exhibit 156,
20 Exhibit 170, Exhibit 164, Exhibit 151, Exhibit 157,
21 Exhibit 161 and 169.

22 Q What about the second group of patents that are in green
23 on this left side of the chart, labeled core-enabling
24 functions?

25 A The second group of patents deal with core technologies

1 and core functions of the standard, but are only used by
2 certain devices or certain types of devices.

3 Q All right. And could you explain what you're illustrating
4 on the right side of Exhibit 5090 under the heading "advanced
5 features." What are these patents?

6 A I should mention the exhibits in those three patents are
7 Exhibit 179, Exhibit 383, and Exhibit 160.

8 Q Thank you.

9 A Now, on the right-hand side we see patents in the Motorola
10 portfolio that cover advanced features. These are
11 technologies that may or may not be in a particular device,
12 but the patents are essential to the practice of that
13 particular feature.

14 Q And --

15 A These patents include Exhibit 2013, 2014, 166, 2016, 181,
16 183, 2019, 154, 101, and 100.

17 Q Were claim charts prepared by you, or under your direction
18 or supervision, setting forth the bases for your opinions
19 that the patents you've just identified in Exhibit 5090 are
20 essential to the 802.11 standard?

21 A Yes, they were.

22 MR. PRITIKIN: Your Honor, we object. There were no
23 claim charts in the expert reports. They've done some now
24 for trial. So we would object to testimony that goes beyond
25 the expert report or even implies that there were claim

1 charts that were done prior to trial.

2 MR. ROGERS: Your Honor, there were claim charts in
3 the expert reports. They were embedded in the paragraphs,
4 and they said "claim element," and explained where the 802.11
5 standard had appeared. In his original opening report there
6 are 150 pages of embedded claim charts. And all these claim
7 charts are, is what you saw in those reports, if you had read
8 the reports. That's exactly the same thing in terms of what
9 we're identifying in the standard that correspond to the
10 elements of the claims.

11 THE COURT: Are you telling me that the language
12 that's in your chart is language that is contained in the
13 expert report?

14 MR. ROGERS: Is it word-for-word? It may have been
15 shortened to make it not a sentence, because it's not a
16 report. But the pictures, the illustrations are there that
17 he had in his expert report. The identification of the
18 802.11 standard citations are the same. So his analysis is
19 the same.

20 THE COURT: Response, counsel?

21 MR. PRITIKIN: Yes, Your Honor. As long as he's not
22 embellishing on what is in the expert report, we're all right
23 with it. My problem is with some of these documents that we
24 got that were served on us in the last couple of days, and
25 some of these summary documents which do go beyond it. I

1 think the testimony may be all right.

2 THE COURT: All right. I will provisionally admit
3 the exhibit. If Microsoft finds something they believe is
4 not in the expert report, I need that brought to the court's
5 attention and I will strike those portions of it.

6 MR. PRITIKIN: I don't believe they are offering the
7 exhibits at this time, it is only testimony. We have other
8 objections to offering written testimony. When the document
9 is offered, we can raise that.

10 Q Prior to coming onto the stand, Dr. Williams, did you have
11 an opportunity to look at 3293 to 3316 in your binder?

12 A Yes, I did.

13 Q What are those?

14 A These are the claim charts for the Motorola essential
15 patent portfolio.

16 Q Would you turn to Exhibit 3296? I'll ask that be put on
17 the screen. The next page. That's the claim chart for the
18 Borgstahl '896 patent. Is that one of the claim charts you
19 prepared?

20 A Yes, it is.

21 Q Would you explain to the court how to read this claim
22 chart and understand it?

23 A If you look at the top line it shows the Motorola patent
24 that I'm discussing, the Borgstahl '896 patent. And on the
25 left-hand side there's a representative claim from that

1 patent, in this case Claim 17. Then I've gone through and
2 listed each of the elements of that particular claim on the
3 left-hand side. On the right-hand side you can look at the
4 802.11 standard and determine sections of the standard that
5 relate to that particular element of the claim.

6 And if you look at the citation, Exhibit 427 is the IEEE
7 standard. If you look at the citation, this is the chapter,
8 paragraph and verse of the actual clause that indicates that
9 that portion of the claim is required.

10 Q Now, do the -- with that explanation, does that apply as
11 well to how you read and understand these claim charts to the
12 other of your claim charts contained within Exhibits 3293 and
13 3316?

14 A Yes, it does.

15 Q Do the claim charts accurately and fairly reflect your
16 analysis that the patents that the claim charts relate to are
17 essential to the 802.11 standard?

18 A Yes, they do.

19 MR. ROGERS: I move into evidence Exhibits 3293 to
20 3316.

21 MR. PRITIKIN: We have no objection to them coming in
22 as demonstrative. They are not substantive evidence, and
23 these are not proper summary documents under the Federal
24 Rules of Evidence. This is, in effect, written testimony
25 that they are trying to offer in lieu of proper direct

1 examination in the courtroom.

2 MR. ROGERS: To move this along, we'll be happy to
3 have them come in as demonstratives.

4 THE COURT: They are admitted as demonstratives.

5 (Exhibit Nos. 3293 through 3316 admitted as demonstratives.)

6 Q If a company, Dr. Williams, such as Microsoft, was selling
7 a device that was certified compliant with the 802.11
8 standard, would that device necessarily have to use -- if we
9 could put back up on the screen Exhibit 5090. So if a
10 company like Microsoft was selling a device that was
11 certified compliant with the 802.11 standard, would that
12 device necessarily have to use the 11 core-enabling patents
13 you identified in Exhibit 5090 that were identified in
14 yellow?

15 A Yes, it would. These 11 must be used in order to build a
16 device that is compliant with the certification process.

17 Q Would those patents, in your opinion, be infringed by such
18 a device?

19 A Yes, it would.

20 Q Now, there are two core function patents in 5090 that are
21 asterisked as having expired. Do you see that?

22 A Yes.

23 Q Crisler and Solomon. Did you take that into account in
24 your analysis of this portfolio?

25 A Yes. In determining the technical value of the portfolio,

1 this is a portfolio of 24 patents. Some patents are
2 decreasing in technical value. Some patents are increasing
3 in technical value. So on the whole, there's a balance of
4 the technical capabilities. An example of that is the Kotzin
5 patent, Exhibit 383, that relates to a process called MIMO, a
6 multiple-input multiple-output antenna system. That
7 technology is receiving increasing importance in products
8 being shipped today.

9 Q With respect to your second opinion that the portfolio of
10 Motorola patents is technically valuable, what do you mean
11 technically or technologically valuable?

12 A What I mean is, in order to build a device which will pass
13 certification for the WiFi Alliance, you need to use all 11
14 of these patents. And you need to use the technology of
15 these patents in order to do that.

16 Q Now, with respect to the three patents that you identified
17 were in green, which are the Beach, Kotzin and Sherly
18 patents, which are also core-enabling patents, in your
19 opinion, could you explain what you mean by certain devices
20 must use these?

21 A Well, these are core technologies. Only certain devices
22 may or may not have these technologies. For example, Beach
23 relates to an access point. The Kotzin patent relates to the
24 MIMO technology, which some products today do not have. And
25 the Sherly patent relates to group key encryption.

1 Q Focus, please, on the patents on the right side of the
2 chart under "advanced features." These are patents you
3 identify as essential to the standard, but are not
4 core-enabling patents. Can you explain why?

5 A Yes. Because some devices may not have the technologies
6 listed in Items 5 through 9: Power management; LDPC codes;
7 data defragmentation; fast transitions; or mesh networking.
8 Some devices may not have the power management feature. But
9 if they do have the power management feature, these patents
10 cover the use of that in the standard.

11 Q So are these additional features patents, do they have
12 technological value in the portfolio?

13 A Yes. For example, power management would be used by
14 battery-operated devices, typically. LDPC codes are
15 receiving more and more interest in devices. And in the next
16 generation of the standard, LDPC codes are mandatory. Data
17 defragmentation is required in some types of devices, et
18 cetera.

19 Q Let's turn, please, to your third opinion from
20 Exhibit 6088, that certain of Microsoft's 802.11-compliant
21 products use core features of the 802.11 Motorola portfolio.
22 Are you familiar with Microsoft's Xbox product?

23 A Yes, I am.

24 Q Does the Xbox use the essential patents, the 11 core
25 functions patents, in your opinion?

1 A Yes, it does.

2 Q What is the basis for that opinion?

3 A The Microsoft Xbox has received certification from the
4 WiFi Alliance.

5 Q Did you base your opinion in this regard on any Microsoft
6 documents?

7 A Yes. In the product literature that comes in the box with
8 an Xbox is a certification logo indicating that that product
9 has passed compliance with the WiFi Alliance.

10 Q Would you put up 2329 on the screen, and turn to Motorola
11 page 6790. Could you focus on the lower left, the WiFi logo?

12 A The logo is used to indicate that this device has passed
13 the conformance test. In this case this logo indicates that
14 this device, the Xbox, has patented Annex b, Annex g, and
15 Annex n versions of the WiFi Alliance standard.

16 Q Is this the document you had in mind for which you based
17 your opinion that the Xbox uses Motorola's 11 core features?

18 A Yes, it is.

19 MR. ROGERS: I move Exhibit 2329 into evidence, Your
20 Honor.

21 MR. PRITIKIN: No objection.

22 THE COURT: 2329 is admitted.

23 (Exhibit No. 2329 was admitted into evidence.)

24 Q If a product bears the WiFi Alliance logo, as we see here
25 in 2329, as being compliant with the 802.11 standard, what

1 does that tell you about whether or not that device uses and
2 thus infringes the core feature patents of Motorola's
3 portfolio, those 11 patents?

4 A Well, to the extent that it uses these particular annexes
5 of the standard, it says that the core 11 patents must be
6 used in building that device.

7 Q Now, to your knowledge, was getting the Xbox certified
8 logo that we see here important to Microsoft?

9 A Yes.

10 Q What's the basis for that knowledge?

11 A I've seen an internal e-mail from Microsoft that indicates
12 that they considered the ability to put this logo on their
13 product an important feature of the product.

14 Q Let me turn your attention to Exhibit 3145, which we'll
15 put up on the screen.

16 If you can focus on the top paragraph, Dr. Williams, is
17 this the e-mail you had in mind that you just testified
18 about?

19 A Yes, it is.

20 Q Could you point out where it is in this e-mail that it
21 informs you that Microsoft believed it was important to get
22 this WiFi logo on its Xbox product?

23 A If we look about 50 percent of the way down the page, we
24 see, "Passing certification is a product-level requirement."
25 And then up on the top it says, "I should add that this is a

1 key and very important marketing lever that we have over our
2 competition."

3 Q Could you keep reading?

4 A "And not having the 802.11 "b", "g", and "n" WiFi logo is
5 not an option."

6 Q Okay.

7 MR. ROGERS: Your Honor, I move into evidence
8 Exhibit 3145.

9 MR. PRITIKIN: No objection.

10 THE COURT: They are admitted -- or, it is admitted.
11 (Exhibit No. 3145 was admitted into evidence.)

12 Q Have you ever heard of the term MIMO, M-I-M-O?

13 A Yes.

14 Q What does the term MIMO mean in the context of 802.11?

15 A In this context is the technology for increasing the
16 through-put and increasing the reliability of communications
17 in an 802.11 network.

18 Q If you see the term MIMO associated with a device that's
19 802.11 compliant, or having 802.11 functionality, does that
20 tell you anything about whether that product necessarily uses
21 any of the patents of Motorola's patent portfolio that you've
22 identified as a core-enabling patent?

23 A Yes. It indicates to me that the Kotzin patent was used.

24 Q Could you see 5090 on the screen? Is that the patent
25 that's Exhibit 383?

1 A Yes, it is.

2 Q Why do you say this?

3 A Because the technology of the Kotzin patent is an
4 essential feature of the standard and it is a core-enabling
5 function.

6 Q I'd like to turn your attention now to this issue of core
7 features. I'd like you to explain to the court in more
8 detail the basis for your opinions that these 11 patents that
9 you identified relate to core-enabling functions of the
10 standard. How does one know when you're looking at a
11 core-enabling function of the standard when you see it?

12 A Well, the question I ask myself is, can you actually build
13 a device that does not include this technology? And so the
14 four technologies that I've listed on the left there, network
15 setup, channel access management, data modulation, and
16 security encryption, are basic core fundamental features of a
17 particular device.

18 So network setup relates to gaining access to the network.
19 You can't communicate if you can't gain access to a network.
20 Channel access management deals with organizing the
21 communications among multiple parties trying to access the
22 network. Data modulation is the process of taking user data
23 and actually placing it on a radio-frequently carrier. And
24 security and encryption is important to protect the data from
25 interloping receivers.

1 Q Have you prepared some demonstrative slides to try to
2 explain further what you just testified to?

3 A Yes.

4 Q I'd like to see Exhibit 5091, please. Is this one of
5 those slides?

6 A Yes.

7 Q This is entitled "core-enabling function network setup."
8 Can you explain to the court, using the slide, how it is --
9 why it is that you say that the Harris and Borgstahl patents
10 relate to a core-enabling function of the 802.11 standard
11 rather than some peripheral tweak?

12 A Network setup, again, is the process of gaining access to
13 the network. The Harris and Borgstahl patents, Exhibits 177
14 and 171, deal with the messages that are communicated back
15 and forth between a station set and an access point, in order
16 to facilitate that acceptance of the station set onto the
17 access point, and the initiation of communications.

18 So this is a core function. If you can't initiate that
19 communication, you can't communicate with the network, and
20 you don't have a communication device.

21 Q So, if His Honor got as a present a new laptop with WiFi,
22 and brought it into this courtroom and wanted to connect with
23 this network, would it be necessary to use these patents?

24 A Yes. That laptop would have to perform the operations
25 shown on this sheet, and performed by the claims of Harris

1 and Borgstahl, in order to gain access to the network.

2 Q Would you please turn to the next slide, Exhibit 5094,
3 please. This one relates to a core-enabling function that
4 you call channel access. Could you explain to the court why
5 that channel access, in your opinion, is a core-enabling
6 function of the 802.11 standard and not just a peripheral
7 tweak?

8 A Channel access relates to how to be organized. Multiple
9 parties that are all trying to use the same precious
10 resource. This resource is the radio frequency spectrum.
11 And in this case multiple parties are trying to access that
12 access point, and give it information and get information
13 from it. And the station -- each station will listen before
14 it speaks, essentially, to make sure that it's not
15 interfering with its neighbors. So that's called a
16 collision-avoidance system. And that is covered by the
17 Crisler patent, Exhibit 148.

18 So, if Your Honor's new laptop were to come into this
19 courtroom, you would be contending with 50 people to access
20 the access point. The process in which there is an organized
21 method of gaining access to that access point is the
22 channel-access process.

23 Q Thank you. Now, could you explain -- you mentioned data
24 modulation as a core-enabling function to which Motorola's
25 patents relate. Could you look at Slide 5096? Is this a

1 slide you prepared to help explain why that is a
2 core-enabling function, data modulation?

3 A Yes, it is. Data modulation relates to how do we take
4 information from a user and place it on a radio frequency
5 carrier and transmit it to the other side? There are five
6 patents in this section. Two of those patents relate to a
7 technology called OFDM, which is a high-speed data transport
8 mechanism. These two patents, Exhibit 164 and 151, relate to
9 the synchronization process that occurs over that channel, so
10 that both ends know where they are in the stream of ones and
11 zeros that are coming across the channel.

12 In the bottom three patents, Exhibit 180, 156 and 170,
13 these deal with the fundamental process of how to change the
14 carrier, how to modulate that carrier in order to convey the
15 information to the other side.

16 Q So the top two patents, Jasper and Solomon, relate to
17 802.11 "a", "g", and "n" modulation schemes?

18 A Yes, that's correct.

19 Q The Cafarella, Ling and Bruckert, you indicate relate to
20 802.11 "b" and "g"?

21 A That's correct.

22 Q Let's look at 5103 that relates to the core-enabling
23 function of security. Could you explain to the court why it
24 is you say these patents are core-function patents and not
25 simply a peripheral feature?

1 A Well, security is critical because we're taking a wireless
2 carrier and broadcasting that wireless carrier out into the
3 ether, and that carrier could be intercepted by multiple
4 receivers. And we don't really know who is receiving that
5 information. In the 802.11 standard it covers a security --
6 set of security processes.

7 In the Banwart patent it discusses a process called in the
8 802.11 standard as a four-way handshake. The Banwart patent
9 covers the first handshake of that four-way handshake, and
10 ultimately ends up in the generation of encryption keys on
11 both sides in order to encrypt the information.

12 The Pierce and Brown patents, Exhibits 161 and 169, deal
13 with something called the "message integrity code." And this
14 integrity code identifies, specifically to the receiver, that
15 this information was generated by the sender. So this
16 particular set -- this particular message is used billions
17 and billions of times per day here in the United States, in
18 messages that involve 802.11.

19 Q Thank you, Dr. Williams.

20 Now, were you in the courtroom when Dr. Gibson
21 testified last week that Motorola's essential -- 11 essential
22 patents that we've been discussing were either not used by
23 the Xbox or were not relevant to it?

24 A Yes, I was.

25 Q And did you agree -- do you agree with Dr. Gibson's

1 testimony in that regard?

2 A No, I do not.

3 Q Did you prepare any demonstratives to assist in explaining
4 why you disagree with Dr. Gibson?

5 A Yes, I did.

6 Q I'd like to show you Exhibit 5110, which is -- well, would
7 you please explain to the court what this is?

8 A Yes. What I did was I took Dr. Gibson's Exhibit 4042, and
9 I put that on the left-hand side of the slide. Then I put my
10 opinions on the right-hand side of the slide, listed in red,
11 to each of his opinions.

12 Q And what is this showing?

13 A This shows that Dr. Gibson was incorrect in his analysis.

14 Q Incorrect in -- for all of the patents listed?

15 A Yes. That's true.

16 Q Okay. I'd like you now to march down this slide from the
17 top row down to the bottom, and explain your opinion as to
18 why Dr. Gibson's conclusions in the "use relevant" column are
19 incorrect. Please start with the '533 patent on the top row.

20 MR. PRITIKIN: Your Honor, we do have some objections
21 to this demonstrative. We relayed that to, I believe, the
22 other side last night. Part of it is okay. Part of it goes
23 beyond the scope of what is in the expert reports. So we
24 probably need to take up one-by-one as we go through. The
25 very first line does have material that goes beyond the scope

1 of the expert reports.

2 THE COURT: Response, counsel?

3 MR. ROGERS: The answer to that, Your Honor, is the
4 RTS/CTS, which is what I think they're referring to on the
5 top line, is something that was not in Dr. Gibson's expert's
6 report, but he testified to it for the first time. And this
7 is rebuttal to what Dr. Gibson testified to. RTS\CTS, until
8 Dr. Gibson testified to it, was not in this case, and this is
9 just rebuttal.

10 MR. PRITIKIN: Your Honor, the sequence of events on
11 this is on, I believe November 9th, there was some document
12 that was given to us that purported to be test results
13 relating to RTS/CTS. It was not a supplemental expert
14 report, it was just a document showing testing. We don't
15 know who did it, how it was done, and there was no request to
16 file a supplemental expert report.

17 So before the trial began they obviously are well aware of
18 that might be something they want to get into, yet there was
19 no supplemental report that was served.

20 During the trial there was testimony from Mr. Del Castillo
21 that Xbox does not support RTS/CTS. Again, this is something
22 that was known to them. If it is something they wanted to
23 do, and they wanted to do testing, it should have been
24 properly presented to us in an expert report, so we would
25 have had time to deal with it and confront it, find out what

1 this testing is. It's a mystery even now to us.

2 MR. ROGERS: If I might, Your Honor. The first time
3 this showed up was in the other side's, Microsoft's, proposed
4 findings of fact that were filed with this court, where
5 suddenly there was a small paragraph that said that the Xbox
6 did not use RTS/CTS. There is no citation to it. There is
7 nothing in Dr. Gibson's expert report to say anything about
8 this. This was completely new in their proposed findings of
9 fact.

10 It was in response to that that we asked Dr. Williams to
11 take a look at this. And he prepared a report. And we
12 submitted the report in a timely manner. And then Dr. Gibson
13 gets on the stand for the first time to try to support that
14 new finding of fact that was never in this case. And he
15 testified to the Xbox as having RTS\CTS. So this is pure
16 rebuttal. What you're going to hear, if we're allowed to
17 present it, is that the Xbox does not have this deficiency
18 they say it does. Dr. Gibson says, in this Exhibit 5110,
19 that the Xbox does not use RTS\CTS. We're going to see that,
20 in fact, it plainly does.

21 And so what we have here is an attempt, frankly, to ambush
22 us, to get into evidence some position of Dr. Gibson that he
23 created after his expert reports were in. They then have him
24 testify to it. Then they say we cannot have rebuttal. That
25 is prejudicial to us, Your Honor. And all we're doing is

1 responding to the position first created by them.

2 THE COURT: Would you have your staff blow up 5110 in
3 the portion that we're arguing about, since I can't read it?

4 I will permit the questioning. It goes to cross
5 examination and not admissibility.

6 MR. PRITIKIN: Your Honor, I don't want to belabor
7 this, but the representations that were just made are not
8 entirely accurate as to what happened here.

9 THE COURT: Well, then, I'll hear that, because there
10 will be consequences.

11 MR. PRITIKIN: May I hand up, Your Honor,
12 Exhibit 3401? Or you may well have it, it's one of the --

13 THE COURT: Counsel, at this point I have about four
14 feet by three feet worth of stuff behind me. If you want me
15 to refer to it, you need to hand it up.

16 MR. ROGERS: For the record, for 3401, we're only
17 interested in the first two pages, which is all we would be
18 offering it for, which refers to RTS\CTS.

19 THE COURT: All right. Counsel, you're going to make
20 an argument in regards to this?

21 MR. PRITIKIN: Yes, Your Honor. This was the
22 document given to us on November 9th. When one looks at it,
23 it is clearly not a supplemental expert report. There is no
24 evidence at all that this is going to relate to testimony
25 that is going to be given by Dr. Williams. It was simply

1 produced with a Bates number. And they have been producing
2 supplemental documents right up to and through the trial. So
3 there was no indication that this is something he was going
4 to testify to.

5 Dr. Gibson did not offer opinions on the subject, he
6 simply repeated what a fact witness had said. The testimony
7 was from Mr. Del Castillo that Xbox does not support RTS\CTS.
8 There was no elaborate explanation of that. There was
9 nothing other than, in Dr. Gibson's testimony, than a
10 reference to the fact that Mr. Del Castillo had said that.
11 So this is not something that is being presented as a
12 refutation to, or rebuttal to expert testimony, or expert
13 opinions that were provided on our side.

14 Again, if they wanted to do it, and apparently it was
15 something that was in the back of their minds, that's why
16 they did these tests. And that's the basis for the opinion
17 being offered. That should have been presented on
18 November 9th with a supplemental expert report with leave to
19 file it.

20 MR. ROGERS: May I respond to that?

21 THE COURT: Yes.

22 MR. ROGERS: Dr. Gibson gave an opinion,
23 Exhibit 4042. His opinion was that the '533 patent is, "Not
24 used by the Xbox because the Xbox does not use RTS\CTS." He
25 may have used the information from Mr. Del Castillo, but he

1 did give an opinion based on RTS\CTS. And what we're going
2 to show in rebuttal to that opinion, first given, first
3 identified to us on the witness stand, we're going to direct
4 Dr. Williams' testimony directly to that.

5 THE COURT: Counsel, what is 3401?

6 MR. ROGERS: 3401 is a written report that -- I think
7 that's 3401, is that correct -- that we produced, after we
8 learned about their proposed finding of fact, that simply, in
9 the first two pages, shows that the Xbox uses RTS\CTS.

10 THE COURT: I'm not going to permit this testimony.
11 You knew about it before the trial. And the fact that they
12 have a proposed finding doesn't make any difference. It's
13 not in his expert report. There's nothing in rebuttal in
14 this other than what you knew before the trial.

15 MR. ROGERS: Well, what --

16 THE COURT: Don't argue with me. Move on.

17 MR. ROGERS: Yes, Your Honor.

18 Q Let's talk about, if you look at 5110, can you start with
19 the Solomon patent?

20 A In the Solomon patent, Dr. Gibson has said that --

21 THE COURT: Once again, may I ask this be blown up?

22 MR. ROGERS: Oh, yes.

23 A Dr. Gibson has said that the standard requires only one
24 preamble to be sent, and the patent requires two preambles to
25 be sent. And if you look at the actual clause of the 802.11

1 standard that I cited in my reports, there are clearly two
2 synchronization signals.

3 Q All right. Could you please continue on with this chart?

4 A Yes. If we go to the Jasper patent, Exhibit 154, Dr.
5 Gibson has said that the patent calls for mixing of a
6 preamble with user information signals, and the standard
7 doesn't call for that. I've clearly indicated in my reports
8 that 802.11 requires a combination of user information with
9 this preamble signal, and listed the citation in the standard
10 for that.

11 Q And the next patent, sir?

12 A The next one is Borgstahl.

13 Q Could you do Borgstahl and Harris together?

14 A Borgstahl and Harris are both relating -- Dr. Gibson has
15 said that the Xbox does not -- that the patent requires a
16 peer-to-peer connection, and that the Xbox only typically
17 performs a connection with an access point.

18 If you look at the claim language of the patent, it does
19 not require a peer-to-peer connection, and is more general
20 than just a peer-to-peer type of communication.

21 If you look at the next one, Dr. Gibson states that these
22 patents only relate to the "b" mode and the "g" mode of
23 operation.

24 Q What are these patents, for the record? You said "these
25 patents."

1 A Can you back up, please?

2 The Harris --

3 Q You're talking about Cafarella now?

4 A Sorry. So, could I see Harris, please? The same comment
5 applies to Harris. If you look at the Harris patent, you'll
6 see peer-to-peer is not in the claim language of the Harris
7 patent.

8 Could we go on to the next one, please? Ling. Ling,
9 Cafarella and Bruckert, these are data modulation patents.
10 And Dr. Gibson says that the "b" and "g" modes of operation
11 are not used in their legacy modes of operation. But we saw
12 in the certification logo that Microsoft tested and indicates
13 on their product that they're compatible with the "b" and "g"
14 mode of operation. These are also -- these modes of
15 operation are also required in order to pass an 802.11
16 compliance test. And they also enable fallback modes of
17 operation. If you can't communicate at the fastest speed,
18 you're going to communicate at the lower speed. They also
19 allow for legacy access points to be used, access points that
20 haven't been upgraded to the latest standard.

21 Q And the last patents?

22 A The Banwart, Pierce and Brown patents deal with
23 encryption. And Dr. Gibson has said that encryption, at the
24 802.11 level, is not important because Xbox encrypts at its
25 own level. And in my opinion, 802.11 security is critical on

1 the network level. If you have a device that cannot perform
2 the encryption at the 802.11 level, you cannot gain access to
3 a secured 802.11 network. So, you must have this in the
4 device in order to communicate with a secure network.

5 Q So with respect to the patents --

6 A And, in addition, the WiFi Alliance test for conformance
7 with the encryption standards.

8 Q With respect to the patents you just discussed, other than
9 the '533 Crisler patent, do you agree or disagree with Dr.
10 Gibson's conclusions that these patents are either not used
11 or not relevant?

12 A I disagree.

13 Q For the '533 patent, let's look at the top line again. I
14 do not want to look at whether or not the Xbox has RTS or CTS
15 in it. But in connection with your original infringement
16 analysis, do you recall including a discussion of an example
17 of RTS/CTS in your claim charts?

18 A Yes.

19 Q In your analysis of whether or not Crisler covers the
20 802.11 standard, does your position require RTS\CTS to be in
21 a device for the Crisler patent to cover that device?

22 A No. My statement was only that RTS\CTS is an example of
23 MAC-frame format that would be infringed by the Crisler
24 patent.

25 Q Whether or not RTS or CTS is in the device, doesn't matter

1 for purposes of determining whether or not Dr. Gibson is
2 incorrect about the '533 patent not being used by the Xbox?

3 A No. RTS\CTS does not matter.

4 Q How about QoS, does that matter?

5 A QoS is not required by the claims of the patent. So QoS
6 is independent of the claims of the patent.

7 Q Was Dr. Gibson wrong with respect to the Crisler patent as
8 well?

9 A Yes, he is.

10 Q I'd like you to turn to your opinion that the Xbox is the
11 smallest saleable unit. Please explain why you hold that
12 opinion. And let me show you 5105. Did you prepare this?

13 A Yes, I did.

14 Q Could you briefly go through this and explain your
15 opinion, why the Xbox is the smallest saleable unit?

16 MR. PRITIKIN: Again, we're going to object. This is
17 beyond the scope of the expert report. There was one narrow
18 piece of this that he had referenced in his expert report.
19 He talked about something called a WPA supplicant. And
20 that's the only thing that was ever mentioned, aside from the
21 802.11 chip.

22 Now, apparently, last night, or whenever he was prepared,
23 there's more work that has been done. If he testifies about
24 the WPA supplicant, we're fine with that.

25 THE COURT: I'm going to overrule the objection.

1 This is rebuttal.

2 Q Could you please explain?

3 A Yes. On the upper left-hand side of this slide we see a
4 citation from the standard that says that a pass-phrase is
5 required to gain access to a secure network. On the lower
6 side of the slide we see a representative claim from the
7 Motorola Banwart '571 patent. And we see that within the
8 claim are called out requirements for an encryption key
9 variable. In 802.11, the encryption key variable is the
10 pass-phrase.

11 And if we look at the architecture of the Xbox 360, if you
12 open an Xbox 360 up, you'll see two primary boards, a main
13 circuit board that includes a main CPU or processor, and a
14 memory that is used by that processor. And you'll see a WiFi
15 module that plugs into the main board. So the supplicant
16 which uses the pass-phrase is executed on the processor. And
17 that pass-phrase is stored in the flash memory. That
18 pass-phrase is used in the RAM in order to communicate to the
19 WiFi module the information in the pass-phrase in order to
20 gain access to a secure network.

21 Q Did you base this opinion on where the pass-phrase was
22 stored in the Xbox on any information from Microsoft?

23 A Yes. The testimony of Mr. Caruana.

24 Q Did you rely as well on his e-mail?

25 A Yes, I did.

1 Q Let me show you the testimony of Mr. Caruana, Exhibit 502.
2 Is this the testimony on which you relied?

3 A Yes, it is.

4 Q Go to paragraph 54. And please make that large. Can you
5 explain what it is about the testimony in paragraph 54 that
6 causes you to conclude that at the time Xbox stores flash
7 memory on the main board of the pass-phrase of the 802.11
8 standard?

9 A He was asked, "Is the pass-phrase stored in the Xbox?"
10 And he said, "Yes, it's stored in the system flash." So the
11 flash memory that I had indicated on the previous slide is
12 the system flash.

13 Q All right. We can skip --

14 MR. ROGERS: I move into evidence Mr. Caruana's
15 testimony, Your Honor.

16 MR. PRITIKIN: No objection.

17 THE COURT: It's admitted.

18 (Exhibit No. 502 was admitted into evidence.)

19 THE COURT: Counsel, I'd like to see the last slide,
20 please. The one before that. The flash drive illustration.

21 MR. ROGERS: It's 5105.

22 THE COURT: Thank you.

23 Q Now, Dr. Williams, you have an opinion that the Microsoft
24 portfolio is -- the Motorola portfolio is significantly more
25 valuable than Microsoft's. What do you base that opinion

1 on?

2 A I've performed an analysis of the Microsoft portfolio.

3 Q Turn to see Exhibit 5109, please. Does this reflect the
4 results of the analysis, the results of your analysis?

5 A Yes. There were seven patents listed by Microsoft as
6 being included in their portfolio. I've gone through the
7 claim limitations of the claims that Microsoft is pointing to
8 regarding five of those patents. And these claim limitations
9 are not met by the 802.11 standard. So the claim limitations
10 highlighted in yellow on each of these five patents is not
11 included within the 802.11 standard.

12 Q So were those five patents, Exhibits 345, 437, 435, 434
13 and 503?

14 A Yes, they are.

15 MR. PRITIKIN: Your Honor, we're going to object to a
16 small piece of this, and that's the '263 Bahl patent, that
17 was not addressed in the expert report. No problem with the
18 others. But we don't think he should be rendering or
19 offering any opinions on that now.

20 MR. ROGERS: I believe it was, but we're willing not
21 to refer to that, Your Honor.

22 Q Now, what about the last two patents on the bottom, what
23 do you say about those?

24 A These two patents, Exhibits 439 and 438, in my opinion are
25 emerging -- they relate to emerging technologies. And if

1 they are essential, they would involve peripheral portions of
2 the standard, not the core-enabling functions of the standard
3 as you've shown with the Motorola portfolio.

4 Q These are patents Exhibit 439 and 438?

5 A Yes.

6 Q And can you compare, very briefly, in a sentence, the
7 value, in your opinion, of Motorola's 802.11 essential patent
8 portfolio to Microsoft's?

9 A On one hand technically you have patents that are core,
10 required to be used, technologies that are required to be
11 used to build a device that is compliant with a standard,
12 versus technologies that are peripheral to the standard in
13 technology areas that have not been proven and may have or
14 may not have some future value.

15 So, in my opinion, Motorola's portfolio is far more
16 technically valuable than Microsoft's portfolio.

17 Q Let's turn to your last opinion regarding alternatives,
18 which I believe your opinion was there were no acceptable
19 alternatives to Motorola's 802.11 essential patents. Were
20 you in the courtroom listening to Dr. Gibson's testimony when
21 he said there were various alternatives available to the
22 Motorola technology, patented technology in the standard?

23 A Yes, I was.

24 Q And did you agree with his conclusions in those regards?

25 A No, I did not.

1 Q To be an alternative technology to Motorola's patented
2 technology in the standard, what, in your opinion, must be
3 shown?

4 A Well, in considering an alternative technology as a
5 replacement to technology that's already in the standard, I
6 have four criteria. The first criteria is that that
7 technology has to provide at least the same performance, if
8 not superior performance, to the technology that it's
9 replacing.

10 The second criteria is that that technology not affect the
11 rest of the portions of the standard in adverse ways, and
12 require dramatic changes to the rest of the standard.

13 The third requirement is that that technology had to have
14 been known by the committee at the point in time they made a
15 decision.

16 And the fourth requirement is that this proposed
17 alternative technology not infringe the claims of the
18 Motorola patent.

19 Q Now, did Dr. Gibson do any of what you said needs to be
20 done to determine whether a proposed alternative is truly an
21 acceptable alternative?

22 A No, he did not do a thorough analysis.

23 Q What did he do?

24 A He simply listed a set of technologies that have similar
25 relationships to the technologies in the 802.11.

1 Q So, in your opinion, did Dr. Gibson demonstrate that any
2 of his proposed alternatives were, in fact, acceptable
3 alternatives to any of Motorola's patented technologies in
4 the 802.11 standard?

5 A No. His lack of analysis indicates that.

6 Q Did you, however, analyze the alternatives proposed by Dr.
7 Gibson to determine whether any were, in your opinion,
8 acceptable alternatives?

9 A Yes, I did.

10 Q What was your conclusion?

11 A My conclusion is that none of Dr. Gibson's proposed
12 alternatives would have been acceptable alternatives in the
13 802.11 standard.

14 Q What methodology did you use to reach this conclusion?

15 A I used the same four criteria, and I went through each of
16 Dr. Gibson's proposed alternative technologies and compared
17 those, analyzed those with respect to the four points I
18 listed earlier.

19 Q We don't have the time to go through all 31 alternative
20 articles and what have you, but we have time to do a few.
21 I'd like to put up Exhibit 5112. Is this an exhibit that you
22 prepared?

23 A Yes, it is. And on the left I've shown Dr. Gibson's slide
24 from last week, and on the right I've added my analysis in
25 this case. This is for the Crisler patent, Exhibit 148.

1 Q Could you focus, then, on just one of these? As an
2 example, let's pick the 802.3 Ethernet example.

3 A Yes.

4 Q Why is that not an acceptable alternative?

5 A 802.3 Ethernet is a wired protocol. It's a wired
6 standard. And Dr. Gibson here is saying that the version of
7 CSMA could have been replaced by the ethernet technology.
8 Ethernet technology uses collision detection process not
9 collision avoidance process. So collision detection process
10 is, everybody speaks, and whoever speaks the loudest or first
11 gets to control the channel. Collision avoidance is listen
12 before you talk. Entirely different methodologies of gaining
13 access to the channel.

14 And in addition, collision detection processes are
15 expensive and complicated to implement in a wireless device,
16 because it has to both talk and listen at the same time.

17 Q Okay. Let's do another one, Exhibit 5118, please, for
18 Jasper and Solomon. Could you explain why Dr. Gibson's book
19 that he identified is not a suitable alternative as he
20 proposed it to be?

21 A Dr. Gibson proposes his discussion of synchronization
22 within his textbook as a proposed alternative. This is an
23 undergraduate textbook, as he testified last week. Members
24 of the committee were far more than undergraduate when they
25 were creating the technology here. And the methodologies and

1 techniques described in Dr. Gibson's book would have been
2 well known to those people in the committee. And this
3 technology is far more complex than something that would be
4 represented in an undergraduate textbook.

5 MR. ROGERS: I have no more questions, Your Honor. I
6 pass the witness.

7 CROSS EXAMINATION

8 BY MR. PRITIKIN:

9 Q Good morning, Dr. Williams.

10 A Good morning.

11 Q Since 1999, when you began working as an expert witness.
12 You've testified 50 or 60 times in court or by deposition?

13 A Well, some cases have not gone to deposition. Some cases
14 have gone to court. Some cases have gone all the way
15 through. So I'm not sure that there would be exactly 50.
16 But I've been engaged 50 times as an expert witness.

17 Q You've given depositions probably 50 or 60 times?

18 A Yes, that's true.

19 Q And you've served as an expert for Motorola nine times,
20 not counting the current case?

21 A Approximately. That includes joint defense groups where
22 Motorola was part of a joint defense of a particular set of
23 patents.

24 Q In each of the last two years you've earned more than
25 \$1 million for your work as an expert in connection with

1 litigation?

2 A That's correct.

3 Q Now, you analyzed 26 Motorola patents, right?

4 A Yes.

5 Q But you testified here only about 24. You dropped two of
6 them out from the time of your expert report; is that
7 correct?

8 A I believe so, yes.

9 Q And of the 24, it's your opinion that 15 of them are used
10 by Xbox?

11 A It's my opinion that 11 must be used. Two of those are
12 expired, so it depends on what point in time you're talking
13 about. So, 9 of the 11 would be relevant today for
14 infringement going forward.

15 Q Thank you. That was the point I was trying to come to.
16 Let's talk about the two patents that were dropped out from
17 the time of your initial expert report until we got to trial.
18 Those are the '712 and the '223 patents, right?

19 A I don't recall.

20 Q You recall there were two?

21 A That's my recollection, yes.

22 Q The reason those two patents were dropped is that the, at
23 least in the case of the '712, the court had found that the
24 patent was not essential to the 802.11 standard and not
25 infringed, right?

1 A I didn't feel that those patents were relevant to my
2 opinion.

3 Q Well, that's why it was dropped, isn't it. You opined on
4 it and it was dropped because it was found not to be
5 infringed by courts?

6 A I decided that that was not relevant to my opinion today.

7 Q And the '223 patent was found not only to not read on the
8 802.11 standard by the administrative law judge in the ITC,
9 it was also found to be invalid in the *Apple* case, right?

10 A That's my recollection, yes.

11 Q Now, you talked about some claim charts that you prepared.
12 And you understand when you prepare a claim chart the first
13 thing you need to do is figure out what the claim terms mean
14 to construe the claims, then to examine the device of the
15 prior art in light of the construction, right?

16 A Yes.

17 Q And in your expert report you did not set forth a claim
18 construction of any claim terms, did you?

19 A No. However, at my deposition there was a discussion of
20 this and I indicated that I used a plain and ordinary meaning
21 for the claim terms. And I found no special terms in these
22 patents that required construction.

23 Q Well, in coming to the conclusions that you expressed
24 here, you didn't review the file histories?

25 A At the time of my deposition I had not reviewed the file

1 histories. However, since that time I have reviewed the file
2 histories, and my conclusion is the same.

3 Q Now, when you do an infringement analysis without setting
4 forth claim construction, that can get you into trouble,
5 right?

6 A I don't know how to answer that question.

7 Q Well, that's what went wrong when you analyzed the '712
8 and the '223 patents, right?

9 A I wouldn't agree with that.

10 Q Well, in the case of the '712 patent, both Judge Crabb and
11 Judge Posner formulated a claim construction that was
12 different from the one that you had used, and that is why
13 they found the patent wasn't essential, right?

14 A I would have to review their opinions.

15 Q Now, if you don't do the claim construction and you don't
16 set forth the claim construction that's there, it's pretty
17 hard to rely on the claim charts you do, isn't it?

18 A I don't understand the question. I have construed the
19 terms of the claims and I have created claim charts for these
20 patents.

21 Q But there's no term for which you have set forth a
22 construction, other than what you think of as the plain and
23 ordinary meaning; is that correct?

24 A I think the terms are clearly understandable by the words
25 in the specification and the context of the file wrapper.

1 Q You thought your task here was to study the patents and to
2 determine whether they're essential to the standard, but not
3 to determine the percentages of usage or determine statistics
4 of usage, right?

5 A That's correct.

6 Q And you considered the amount of usage of these patents to
7 be beyond the scope of what you did?

8 A That's correct.

9 Q And when you say that you evaluated -- you talked about
10 something called "core-enabling function" and the importance
11 of the patents. But all it boiled down to was you trying to
12 determine whether the patent was or was not essential, right?

13 A I don't understand the question.

14 Q Well, when you say a patent is important, all you're
15 saying is that you've got to use the patent to practice the
16 standard, right?

17 A No. For essentiality, I follow the IEEE definition.

18 Q I'm asking the other way around. When you reached a
19 conclusion that a patent was important, all you're saying is
20 that it's essential, right?

21 A No.

22 Q Could you take a look at your deposition? And would you
23 turn to page 26 of the deposition? I'll direct your
24 attention to line 19.

25 Question: "What does that mean, important in the

1 standard itself? Isn't every patent that's essential
2 important?

3 Answer: "If it is essential, it is important. Yes."

4 And when you were asked that question, did you give that
5 response?

6 A Yes, I did.

7 Q Now, you've given some testimony here about what the
8 smallest saleable unit is?

9 A Yes.

10 Q And I take it the opinion you're offering is that the Xbox
11 is the smallest saleable unit, that was the opinion you were
12 offering earlier today?

13 A Yes. The entire Xbox is required in order to pass the
14 conformance test of the WiFi Alliance and receive
15 certification for the -- in this case the "b" "g" and "n"
16 annexes of the standard.

17 Q And now, in order to demonstrate that there are things
18 beyond the WiFi chip that are involved, one of the things you
19 pointed us to was the processor; is that right?

20 A Yes.

21 Q That's the microprocessor that's kind of the brains of the
22 computer?

23 A Yes.

24 Q And would it be fair to say that virtually anything that
25 happens on a computer, or on an Xbox, that the microprocessor

1 is involved in that?

2 A Not necessarily. There are peripheral architectures and
3 computer architectures where the bulk of the processing --
4 and almost nothing is performed by a central processor,
5 everything is performed in the adjunct processor or the
6 peripheral.

7 Q When a computer is used in its normal way, the processor
8 is involved, isn't it, for most of the tasks we do on our
9 computers, when we play games on the Xbox?

10 A Well, we are talking about computer architecture here.
11 There are architectures where a peripheral device can perform
12 the bulk, if not all, of the processing and remove the task
13 from the central processing unit.

14 Q It's not the way Windows works, is it, sir?

15 A Windows can work on different styles of architectures.

16 Q And when a Windows computer is used in its normal
17 operation, a microprocessor is involved in that; isn't it?

18 A There is a microprocessor involved in the execution of the
19 Windows software, yes.

20 Q Let's talk a little bit about the WiFi chip. The --

21 THE COURT: Counsel, are we going to be in this area
22 for long?

23 MR. PRITIKIN: A little while, Your Honor.

24 THE COURT: Then let's take our lunch break. Ladies
25 and gentlemen, we'll be in recess until 1 o'clock, and we'll

1 see you all then.

2 (The proceedings recessed.)

3

4 THE COURT: Please continue, counsel.

5 MR. PRITIKIN: Yes, your Honor. We will not be
6 calling Professor Orchard for part of our rebuttal case. It
7 appears to be unnecessary at this point. We wanted to let
8 the court know.

9 THE COURT: Thank you.

10 By Mr. Pritikin:

11 Q Dr. Williams, when we broke for lunch we were talking
12 about the smallest saleable a unit, and the question of
13 whether the WiFi chip is the smallest saleable unit.

14 Now, the chip includes the ability to transmit and
15 receive information on radio frequency carriers, and the
16 baseband portion of that chip set includes the intelligence
17 to take information from the user -- end user and place it on
18 the RF carrier, and take information from the RF carrier and
19 present it to the user, right?

20 A Yes, that's correct. However, if we are talking about an
21 encrypted system, there needs to be an encryption process
22 performed somewhere. And as I have testified, that
23 encryption process -- key elements of that process are
24 performed in the main system for the Xbox 360.

25 Q Now, it would be fair to say, would it not, that the chip

1 implements the elements of the protocol for the 802.11 and
2 controls the presentation of that information to the RF
3 system?

4 A Some of the elements, yes, that's true.

5 Q Would you take a look at your deposition, sir?

6 A Yes.

7 Q Beginning at Line 10. Question: "Can you tell us briefly
8 what is a WiFi chip, what does it do?"

9 A I'm sorry. What page?

10 Q Page 18, Line 10. "Can you tell us briefly what is a WiFi
11 chip, what does it do?" Answer: "Basically it is the WiFi
12 functionality, that includes the ability to transmit and
13 receive information on radio frequency carriers and the
14 baseband portion of that chipset includes the intelligence to
15 take information from the user and place it onto the RF
16 carrier, and take information from the RF carrier and present
17 it to the user. So the chip implements the elements of
18 protocol for the standards and controls the presentation of
19 that information to the RF system." Were you asked that
20 question, and did you give that response?

21 A Yes, I did. And I think the key difference between what
22 I'm saying and I believe what you're saying is the words
23 "implements the elements of protocol." The elements of
24 protocol are the protocol aspects of communicating
25 information over that wireless link in order to create

1 information to be used by the elements of protocol. In the
2 Xbox 360 there is a processing performed in the main system
3 board.

4 Q Now, WiFi chips are commodity products, aren't they?

5 A Yes, they are.

6 Q A lot of different companies sell them?

7 A Yes, they do.

8 Q You testified this morning that you didn't think there
9 were any alternatives to the technology covered by the
10 Motorola patents at the time the standard was adopted. Do
11 you remember testimony relating to that subject?

12 A I testified that Dr. Gibson suggested alternatives that
13 were not, in my opinion, true alternatives.

14 Q And you gave us some criteria that you would apply to
15 determine whether something was a suitable alternative. Do
16 you recall that?

17 A Yes, I did.

18 Q Now, your view of an alternative was that it had to be
19 capable of being integrated with other sections of the code
20 without rewriting them, right?

21 A I believe I said compatible with other sections of the
22 code in order to not create a large disruption in the
23 technology of the standard that is included in other sections
24 of a standard.

25 Q In fact, when you did your analysis in the case, however,

1 you ruled out something as an alternative if it would have
2 required any changes in other portions of the standard; isn't
3 that correct?

4 A I considered changes in other portions of the standard,
5 yes, that's correct.

6 Q Now, in connection with the development of the 802.11
7 standard, there were hundreds of individuals from a very
8 large number of companies and organizations that were
9 involved in putting it together, right?

10 A That's correct.

11 Q And there are potentially hundreds of patents that are
12 essential to 802.11?

13 A I'm sorry. Is that a question?

14 Q Yes.

15 A And what was the question?

16 Q The question is, aren't there potentially hundreds of
17 patents that are essential to 802.11?

18 A I don't know the numbers, because I haven't done the
19 analysis.

20 Q But potentially there are hundreds, aren't there?

21 A I can imagine there might be hundreds.

22 Q Now, you did not attempt to assess what the contributions
23 of companies other than Motorola and Microsoft were to the
24 standard?

25 A In order to prepare my testimony for today, looking at

1 portfolios that were outside of these two portfolios, I
2 didn't consider that important.

3 Q And you didn't analyze the patents of any -- of the
4 companies other than Microsoft and Motorola that have filed
5 letters of assurance with the IEEE?

6 A Well, I think there are two points there. The first is
7 that, again, I didn't consider third-party patents, because I
8 didn't consider it important in reaching the conclusions that
9 I have drawn here on the board.

10 The second point is, a letter of assurance is not a --
11 isn't an unusual thing. It is an expression by a company
12 that they may possess technology that may be essential to the
13 standard. Oftentimes, the standard is not solidified at the
14 point in time when the letter of assurance is submitted to
15 the committee. And oftentimes the claims of the patent that
16 may or may not be essential are not solidified at the time
17 the letter of assurance is presented to the committee.

18 Q Dr. Williams, the question I asked you was a simple one.
19 You didn't analyze the patents of any other companies, did
20 you?

21 A I have testified to that twice now. The answer is no.

22 Q And you didn't look into whether those patents were more
23 or less important than the Motorola patents?

24 A I didn't consider that important in reaching the opinions
25 that I presented here today.

1 Q The answer is, you didn't do it, right?

2 A The answer is, I did not do it because it was not
3 important to reaching the opinions that I expressed here
4 today.

5 Q Now, one of the companies that did not list specific
6 patents in connection with its letters of assurance is a
7 company called Atheros. That's a company you worked for?

8 A Yes, it is.

9 Q And you worked for Atheros back in the 1999 to 2000 time
10 frame?

11 A Yes.

12 Q At that time Atheros was developing 802.11-compliant
13 chips, right?

14 A Yes.

15 Q Atheros sold its first chips in 2001 or 2002?

16 A Approximately.

17 Q Does Atheros have a license from Motorola?

18 A I don't know.

19 Q Atheros made important contributions to 802.11 over time,
20 didn't it?

21 A Yes.

22 Q And the Atheros patents are important to 802.11?

23 A I would have to analyze the patents of Atheros in order to
24 reach that conclusion.

25 Q Would you turn to Page 54 of your deposition,

1 Dr. Williams? I will direct your attention to Line 11. "Do
2 you believe that the patents for Atheros were important to
3 802.11?" Answer: "Yes." Were you asked that question and
4 did you give that response?

5 A Yes, I did.

6 Q Now, examples of other companies that didn't list specific
7 patents to IEEE but made important contributions to 802.11
8 would include Broadcom, Intel, Qualcomm, correct?

9 A Yes, generally.

10 Q You have no opinion as to what percentage of the overall
11 value of 802.11 technology Motorola is responsible for, do
12 you?

13 A Well, I have done some work since Dr. Gibson presented his
14 graphic last week that indicates the sections of the standard
15 that I cited and how that maps to his graphic.

16 Q Now, you have not offered an opinion as to whether the
17 Motorola patents were more or less important than the other
18 companies that submitted LOAs, I think we established that?

19 A Again, I have not considered third-party patents in
20 reaching my conclusions here.

21 Q If we are talking about third-party patents, it is
22 correct, is it not, that you have no opinion as to whether
23 the standards-essential patents in the Via pool are more or
24 less important than the Motorola patents?

25 A I'm sorry. In the Via pool?

1 Q Yes.

2 A I have not studied patents outside of these two portfolios
3 in reaching my conclusions for my testimony today.

4 Q Now, you believe that the optional portions of the
5 standard -- patents that are essential to the optional
6 portions of the standard, have a lower value than patents
7 that are essential to the required portions?

8 A Yes.

9 Q I want to ask you about a couple of the specific patents.
10 Now, two of the patents that you talked about relate to
11 network setup, the '896 and the '972, correct?

12 A Yes.

13 Q The real benefit of both of those patents is mobile
14 devices that rapidly connect and disconnect and reconnect to
15 the internet, right?

16 A No.

17 Q Do you have a copy of your expert report there?

18 A The opening report? Which report?

19 Q It should be in the binder.

20 A I have two. Which report?

21 Q Let's look at the opening report. Would you turn to
22 Paragraph 140? This paragraph is related to the '896 patent,
23 right?

24 A Yes, it is.

25 Q And I want to direct your attention to the language at the

1 bottom. The language that you quoted here in reference to
2 the '896 patent is the language that says, "The purpose of
3 this standard is to provide wireless connectivity to
4 automatic machinery, equipment or stations that require rapid
5 deployment, which may be portable or handheld, or which may
6 be mounted on moving vehicles within a local area." That was
7 the language that you chose to quote in reference to the '896
8 patent, correct?

9 A Yes, this is language from the standard. General
10 language.

11 Q Now, the claim from the '896 patent that you analyzed here
12 is Claim 17, right?

13 A Yes.

14 Q Can we put up Claim 17 of the '896 patent? Now, you are
15 aware that the '896 patent was asserted in the ITC by
16 Motorola against Microsoft?

17 A That's my understanding.

18 Q And the claim that was asserted there was not Claim 17, it
19 was Claim 1, right?

20 A I don't recall.

21 Q And there was no allegation in the ITC that this patent
22 related to a WiFi connection, the 802.11 connection, was
23 there?

24 A I don't recall the arguments in the ITC.

25 Q In fact, what was accused in the ITC was something very

1 different; it was the connection from the wireless
2 controllers to the console, right?

3 A Again, I don't know the information you are testifying to
4 here.

5 Q Do you know why Motorola brought an ITC action against
6 Microsoft, accusing the Xbox on the '896 patent, and failed
7 to include any allegation that an 802.11 connection infringed
8 that patent? Did you try to find the answer to that
9 question?

10 A Motorola does not consult me for their strategic
11 decisions.

12 Q So you focus now on Claim 17 in these proceedings. And if
13 we look at Claim 17, we have it up here, it is a pretty short
14 claim, you read this claim as requiring that a station send
15 an unsolicited signal containing information about its
16 identity to an access point, right?

17 A Yes.

18 Q And you didn't read this claim as covering the reverse,
19 where the access point broadcasts its identity to the
20 stations?

21 A I could consider that our architecture, yes.

22 THE COURT: I don't believe that was the question you
23 were asked. Let's answer the question you were asked.

24 THE WITNESS: Could I have the question again,
25 please?

1 By Mr. Pritikin:

2 Q Yes. You didn't read this claim as covering the opposite
3 situation, where the access point broadcasts its identity to
4 the stations?

5 A No, but that wasn't necessary for my analysis.

6 Q Well, there was a reason you didn't read it this way,
7 wasn't there? Because you knew if you read it that way, it
8 was going to read on the prior art, systems like the WaveLAN
9 systems where the access point broadcasts its identity
10 information out to the stations? Isn't that why you didn't
11 read it that way, sir?

12 A I did not consider validity in my analysis. I was not
13 asked to.

14 Q Now, in construing this claim as somehow limited to a
15 situation where the station broadcasts its identity to the
16 access point, you had some kind of claim construction you
17 were using there, weren't you, limited to that?

18 A No, this claim is only talking about one appliance talking
19 to another appliance. Any way that wording would be
20 understood by one of ordinary skill in the art at the time is
21 an interpretation -- valid interpretation of these claim
22 elements.

23 Q Let's turn to the '972 patent. And this is another of the
24 setup patents that you talked about?

25 A Yes.

1 Q And, again, even though Motorola was accusing the Xbox in
2 the ITC of infringing its patents, it never alleged that the
3 802.11 connection between the Xbox and an access point
4 infringed this patent, did it?

5 A Again, I don't know anything about the ITC process or
6 accusation.

7 Q Now, one of the patents I think you talked about at some
8 length this morning was the '533 patent, which you said is
9 particularly valuable; is that right?

10 A Yes.

11 Q Now, that patent actually expired on March 28th of 2011,
12 didn't it?

13 A Yes, it did.

14 Q You also gave testimony about the 802.11n modulation
15 patents, right?

16 A Yes.

17 Q 802.11n modulation today is the most modern and fastest
18 connection?

19 A The 802.11n amendment is what we are referring to, yes.

20 Q And that was the '730 and the '724 patents?

21 A Yes.

22 Q Now, the '724 patent expired in May of 2011, didn't it?
23 The '724 patent?

24 A Yes, it did.

25 Q And the '730 patent is going to expire in May of next

1 year?

2 A I would have to look at the patent face.

3 Q So after May of next year, Motorola is not going to have
4 any patents that read on the 802.11n modulation, is it?

5 A Well, there are -- in my understanding there are
6 historical issues, as well as going-forward issues with
7 infringement.

8 Q Now, both of these patents, you read them on portions of
9 the 802.11 patent -- or standard that relates to the use of
10 something called OFDM?

11 A That's correct.

12 Q And that's orthogonal frequency division multiplexing?

13 A Yes, that is the name of the technology.

14 Q But you would agree with me Texas Instruments and Stanford
15 University have the primary patents on OFDM, right?

16 A For wired systems, yes, not for wireless.

17 Q Now, you said you tried to evaluate the importance of
18 these patents in the context of the standard; is that right?

19 A I looked at each and every claim element of the
20 representative claims from these patents and compared those
21 to sections within the standard.

22 Q But you undertook this analysis of the importance of these
23 patents without considering their validity; is that correct?

24 A Yes, I was instructed to do that.

25 Q And, therefore, you do not have an opinion you are

1 expressing as to whether the claims you analyzed are valid or
2 invalid?

3 A That's correct.

4 MR. PRITIKIN: Nothing further, your Honor.

5 REDIRECT EXAMINATION

6 By Mr. Rogers:

7 Q Dr. Williams, on direct you were asked questions about
8 your not having an opinion about the percentage of overall
9 value of the -- that the Motorola portfolio has in the 802.11
10 standard. Do you remember that?

11 A Yes.

12 Q And you in your response made reference to Dr. Gibson's
13 graphic that you had considered?

14 A Yes.

15 Q I would like you to put up Exhibit 5108, please.

16 MR. PRITIKIN: Your Honor, we object to this
17 demonstrative. We informed the other side of that last
18 night. We have a number of objections to it. The principal
19 objection we have is that it goes far, far, far beyond his
20 expert report. What we did -- We got this late last night,
21 and we went through and we looked at the sections of the
22 802.11 standard that are identified here, or have been
23 identified on this demonstrative. And then we went back and
24 compared those to the sections of the 802.11 standard that
25 are identified in the expert report. And they are very

1 different. I have -- May I approach, your Honor? We have
2 summarized --

3 THE COURT: Counsel, do you have a copy of this?

4 MR. ROGERS: No, I do not.

5 MR. PRITIKIN: We have extra copies. Among other
6 things, he cited in his report to the 2007 standard. Now he
7 is trying to map this under the 2012 standard. As one flips
8 through here you can see that there is a disconnect between
9 the sections of the standard that were cited in the expert
10 report, and now they are trying to relate to the 2012 version
11 of the standard by means of this demonstrative.

12 THE COURT: Mr. Rogers?

13 MR. ROGERS: Your Honor, I can't analyze this long
14 chart of stuff that they gave me, so I can only say that what
15 the effort was, was to map into Dr. Gibson's graphic, which
16 we had never seen before until trial, it wasn't until about
17 -- the sections of the 802.11 standard that were called out
18 in Dr. Williams' claim charts. And to the extent that there
19 were not any identifications by Dr. Gibson of any section of
20 the 802.11 in this chart, Dr. Williams attempted to determine
21 whether or not it was implicated by the 802.11 sections that
22 were identified in his expert report. That is what I
23 understand was done. But I can't talk to this long 10, 12,
24 15, 20-page document, which they never gave us until this
25 very moment.

1 MR. PRITIKIN: This came in at 12:30 last night.
2 Beyond that, it really is not rebuttal testimony anyway.

3 MR. ROGERS: I would disagree, your Honor. This
4 graphic came in by Dr. Gibson. The door was opened by
5 counsel here on his cross-examination of Dr. Williams, who we
6 are simply now going on rebuttal to that cross-examination.
7 If I could lay a foundation perhaps with Dr. Williams so we
8 could understand what this really is, that might assist the
9 court.

10 THE COURT: Counsel, I am going to permit the
11 testimony. I will tell you that I suffer from the same
12 disadvantage that the lawyers do, which is that I have not
13 seen this before. And I will caution the parties that I will
14 give credit to Mr. Williams' testimony only to the extent
15 that it is rebuttal to Gibson, and not launching into a new
16 area. I am not capable of doing that based on the arguments
17 that have been made here. The testimony is permitted with
18 that understanding.

19 MR. ROGERS: Thank you, your Honor.

20 By Mr. Rogers:

21 Q Dr. Williams, would you please explain what is 5108, what
22 you did, how you created it, and what it shows?

23 A Well, I heard Dr. Gibson talk about this chart last week,
24 and I received a copy of it. I blew it up larger so I could
25 actually read it. And I then took the patents that are in

1 Motorola's 24-patent portfolio, and looked at the citations
2 from my reports, and mapped those citations onto Dr. Gibson's
3 graphic.

4 Now, it is important to understand that this graphic is
5 not the tree of the 802.11 standard. This is not each and
6 every section of the standard. There are generic labels
7 contained within the boxes here. And Dr. Gibson has broken
8 up some of the sections into multiple sections.

9 So what I did was, in the boxes you can see the name of
10 the Motorola patent, and then I have drawn an arrow to and
11 circled the element of Dr. Gibson's chart that that patent
12 relates to. So you can see a detailed -- you can see a
13 detailed relationship between, for example, the Banwart and
14 the Brown patent to the technologies that Dr. Gibson is
15 pointing to in his chart, as well as Pierce.

16 Here is a good example right here. On the upper
17 right-hand side, Dr. Gibson just points at the message
18 integrity code which we talked about earlier. And that is
19 related to the Brown and the Pierce patent, as I testified
20 earlier. There is no section number or relationship directly
21 to the standard there. He is just listing the MIC code. So
22 Brown and Pierce both talk about that. I talked about that
23 in my testimony earlier today.

24 Q So if we can zoom out on this chart again, please.
25 Dr. Williams, could you tell the court what, if anything,

1 this mapping you have done leads you to conclude regarding
2 the importance of the Motorola portfolio to the 802.11
3 standard?

4 A Well, just graphically looking at this I would say that
5 the Motorola patents cover a broad breadth of what Dr. Gibson
6 put up as a graphic representing the standard. The Motorola
7 patents affect many of the areas of the standard. And the
8 use of the Motorola patents in some areas is pervasive. So I
9 think you can see that clearly the Motorola patent portfolio
10 is not some set of technologies that are off on the edge of
11 the diagrams in a nonconsequential area. They are core and
12 fundamental to the operation of 802.11.

13 MR. ROGERS: No further questions, your Honor.

14 MR. PRITIKIN: Nothing further, your Honor.

15 THE COURT: I have some, starting with, when was this
16 demonstrative prepared?

17 THE WITNESS: When was it prepared?

18 THE COURT: Yes.

19 THE WITNESS: Over the weekend, sir.

20 THE COURT: Counsel, is there a reason why the
21 court's ruling in regards to showing demonstratives to the
22 other side before they are introduced in court was not
23 followed?

24 MR. ROGERS: It was my understanding, your Honor,
25 that we have an agreement to exchange documents, and I

1 believe we did exchange -- to my knowledge, these were
2 exchanged. I believe there may have been a complaint that it
3 was fuzzy at some point. I am told we produced a cleaner
4 version.

5 MR. PRITIKIN: It wasn't fuzzy, it was utterly
6 illegible. We got a legible copy at 12:30 at night.

7 THE COURT: Tell me when.

8 MR. PRITIKIN: 12:30 this morning. That's when we
9 got a legible copy. And this was prepared -- I will have to
10 say, I was asleep. But this was prepared at that point.

11 THE COURT: I am going to permit the testimony. I am
12 not going to allow use of the demonstrative, because it is a
13 violation of my rule to avoid exactly this situation. Did
14 you have recross?

15 MR. PRITIKIN: No, I have no recross.

16 THE COURT: Then I get to ask questions.

17 One of the things that you all assume is that the people
18 who are going to review this know as much as you do. I think
19 the very first thing that you said had to do with essential
20 patents as opposed to optional -- excuse me, essential
21 patents as they pertain to optional futures and core enabling
22 functions. So doing great damage to the English language, is
23 it true that an essential patent can be essential to an
24 optional feature?

25 THE WITNESS: Yes. If you look at the IEEE

1 definition, it says, "A mandatory or an optional feature."
2 So in the standard, the standard calls out mandatory
3 requirements, a device that meets the standard must do this.
4 It also calls out, well, if you'd like to do this, you can do
5 this as well, and here is how it needs to work.

6 The purpose of the standard is to reach a common
7 understanding between the manufacturers who are going to
8 implement the equipment, so that when they build their own
9 version of the standard, that it will interoperate and talk
10 to the other versions built by another manufacturer. So the
11 essentiality applies to both mandatory features and optional
12 features.

13 THE COURT: Did I understand your testimony to be
14 that the Xbox is the smallest saleable unit in regards to the
15 802.11 standard, because it practices the patent, and
16 pointing to a smaller feature of the chip, Marvell chip,
17 doesn't accomplish that?

18 THE WITNESS: There are elements of the patent that
19 relate to information that is stored on the main board of the
20 Xbox 360. So the Xbox 360 memories have to be there in order
21 for that device to perform to the standard. And if we just
22 took the module itself, the WiFi module, and powered that
23 module, that module would not comply with the 802.11
24 compliance tests. That module needs information that is
25 outside of its boundaries in order to build a device that is

1 capable of passing the conformance test for 802.11.

2 THE COURT: And the remainder of that device is
3 located in what?

4 THE WITNESS: In the main system board. So if you
5 open up an Xbox, you will see two boards.

6 THE COURT: It seems to me, if I understand your
7 testimony, you can't justify a percentage of retail price
8 royalty rate for a patent that is not measured by that
9 patent's contribution to the standard, or the standard's
10 contribution to the product?

11 THE WITNESS: I'm not testifying as to economic --

12 THE COURT: Yes, you have. You plunged in with both
13 feet here. If you can't, just say you can't.

14 THE WITNESS: I am talking about technological value,
15 not economic value. I am saying if you start out to build a
16 device that is compatible with the standard, what are the
17 most important technologies you have to use to build that?
18 If you start out to build a car, you have to use tires, you
19 have to use transmissions, you have to use steering wheels,
20 those sorts of things. Those are the important technologies
21 to put into a car. What I'm saying is, the technological
22 value of the technologies represented in the Motorola
23 portfolio are essentially the transmissions and the steering
24 wheels and the speedometers and the core functions of a car.
25 It is not the radio or the antenna ball -- the

1 Jack-in-the-Box ball on the end of the antenna. It is the
2 tires and the transmission and the engine of the car.

3 THE COURT: Would you agree with me then that if I
4 were to measure the technological value of a patent as part
5 of -- in comparison to the total product, I would view the
6 technological contribution of the patent to the standard and
7 the technological contribution of the standard to the
8 product?

9 THE WITNESS: Yes, I would make that logical chain.

10 THE COURT: All right. Thank you. Counsel, anything
11 further?

12 MR. ROGERS: No, your Honor.

13 MR. PRITIKIN: Nothing further, your Honor.

14 THE COURT: Thank you. Next witness, counsel.

15 Whereupon,

16 RICHARD SCHMALENSEE
17 called as a witness, having been first duly sworn, was
18 examined and testified as follows:

19 THE CLERK: Will you state your full name for the
20 record and spell your last name?

21 THE WITNESS: Richard Schmalensee,
22 S-C-H-M-A-L-E-N-S-E-E.

23 DIRECT EXAMINATION

24 By Mr. Palumbo:

25 Q Good afternoon, Professor Schmalensee. Could we have

1 Exhibit 2968, please? What is this exhibit?

2 A That is my curriculum vitae. It describes my education,
3 publications, testimony, employment and related information.

4 Q What degrees do you hold, sir?

5 A I have a bachelor of science in economics, politics and
6 science from MIT, and a Ph.D. in economics also from MIT.

7 Q Have you held endowed chairs or other leadership positions
8 at MIT?

9 A Yes, I was for a time the Gordon Y. Billard Professor of
10 Economics and Management. I was then for nine years the John
11 C. Head III Dean of the MIT Sloan School of Management.

12 Since 2007 I have been the Howard W. Johnson Professor of
13 Economics and Management Emeritus as of July 1.

14 Q Have you held positions in government?

15 A Yes, between 1989 and 1991 I was one of the three members
16 of the President's Council of Economic Advisers.

17 Q Have you received any honors as an economist?

18 A Yes, I have. I was elected a fellow of the Econometrics
19 Society, a fellow of the American Academy of Arts and
20 Sciences, and a member of the executive committee of the
21 American Economic Association. Earlier this year I was named
22 the 2012 distinguished fellow of the Industrial Organization
23 Society.

24 Q What is your primary field of study in economics?

25 A It is in fact industrial organization, which is the study

1 using economic theory and empirical methods of how firms,
2 consumers, governments and others interact in real markets,
3 taking into account real-world complexities, like patents and
4 standard-setting.

5 Q What have you done as an expert in this case?

6 A Well, I have relied certainly on my general training and
7 knowledge of economics, and on a fair bit of the economic
8 literature bearing on standard-setting and related
9 activities, and RAND licensing. And, of course, I have read
10 documents. I have read the expert reports of the other
11 side's economist, trial transcripts, depositions, motions,
12 other papers.

13 Q On what subjects are you prepared to express opinions
14 today?

15 A Two, principally. First, the best feasible approach to
16 determining RAND royalties in this case, and, second, various
17 opinions and conclusions reached by Microsoft's economists.

18 Q For shorthand purposes I am going to use the term SEP, by
19 which I mean standard-essential patents. Is that acceptable
20 to you, Professor?

21 A Indeed, it is.

22 Q What does the RAND commitment mean for SEP holders and
23 firms that seek to implement a standard?

24 A Well, it arises in the context of standards-setting
25 obviously. And standards-setting organizations are trying to

1 do two things: They are trying to induce the creation of
2 valuable standards, and they are trying to insure that those
3 standards are widely employed.

4 To induce the creation of valuable standards, the RAND
5 commitment guarantees that holders of valuable intellectual
6 property will receive reasonable return, reasonable royalties
7 on that property. In exchange, of course, they give up the
8 right to refuse to license, or to license exclusively.

9 On the other hand, it guarantees implementers, those who
10 would like to use a standard, that they will be able to
11 obtain the necessary intellectual property on reasonable
12 terms.

13 Q Based upon your study, could there be a low pool royalty
14 rate and several different higher bilaterally negotiated
15 royalty rates, and have each of those several different
16 royalty rates be RAND?

17 A Certainly. Even if firms are attempting to obtain the
18 maximum reasonable return on their intellectual property,
19 rates can differ just because of the nature of the property.

20 But more fundamentally, the RAND obligation is of the
21 nature of an upper bound. It limits what can be charged for
22 a particular piece of property. It is not unreasonable to
23 charge less. So if members of a pool elect for a variety of
24 reasons, or individual licensors elect for a variety of
25 reasons to charge a low rate, perhaps to encourage the use of

1 the standard, that's not inconsistent with RAND, nor is the
2 behavior of a patentholder who elects to charge a higher rate
3 to maximize its licensing revenues.

4 Q Have you published any articles on standard-setting
5 organizations and RAND royalties?

6 A I have indeed. I have published two.

7 Q Could we have 293?

8 MR. PALUMBO: By the way, your Honor, we move
9 admission of 2968, which is the professor's CV.

10 MR. PRITIKIN: No objection.

11 THE COURT: It is admitted.

12 (2968 admitted.)

13 By Mr. Palumbo:

14 Q 293, please. Tell us what this is, Professor?

15 A This is a paper I wrote with Anne Layne-Farrar and Jorge
16 Padilla, called Pricing Patents for Licensing in
17 standard-setting Organizations, colon, Making Sense of FRAND
18 Commitments.

19 Q Did you rely on the work you did in this article in
20 forming the opinions you are going to express today?

21 A I did indeed. I should mention we published this in the
22 Antitrust Law Journal in 2007.

23 MR. PALUMBO: Your Honor, we move for the admission
24 of 293.

25 MR. PRITIKIN: No objection.

1 THE COURT: It is admitted.

2 (293 admitted.)

3 By Mr. Palumbo:

4 Q Could we have Page 705 of 293? What was your conclusion
5 about the feasibility of the ex ante evaluation methods you
6 studied in your 2007 article?

7 A Well, there is a little jargon there, so I should unpack
8 it a little bit. We looked at one extension of the
9 Swanson-Baumol model to a situation with two patents in the
10 standard, that's the ECPR model, ex ante model; and then
11 another that is based on Cooperative Game Theory, that is the
12 Schachle value approach. At the end of the day we concluded
13 that neither one should actually be used or could actually be
14 used as a practical matter to set patent rates, for the
15 reasons we indicate.

16 We did say when ex post litigation occurs you might use
17 these sort of conceptual frameworks or ways of looking at the
18 world to assess royalty rates.

19 Q Could you explain to Judge Robart what you mean by use
20 them as a conceptual framework?

21 A As a way of looking at the world, as a way of thinking
22 about things, not as an approach that would yield
23 calculations, unfortunately.

24 Q Do you still agree with the conclusions from your 2007
25 article?

1 A I do indeed.

2 Q Could we have Exhibit 294, please? Please identify this
3 exhibit.

4 A This is an article I published two years later in the
5 Journal of Industrial Economics in 2009, entitled
6 standard-setting, Innovation Specialists, and Competition
7 Policy.

8 Q Did you rely on the work that you performed in writing
9 this article for your opinions today, sir?

10 A I did indeed.

11 MR. PALUMBO: Your Honor, we move admission of 294.

12 MR. PRITIKIN: No objection.

13 THE COURT: 294 is admitted.

14 (294 admitted.)

15 By Mr. Palumbo:

16 Q Why did you write your 2009 article?

17 A Well, I wanted to explore some of the issues that we
18 raised in the 2007 paper. I wanted to look hard at the
19 ex ante approach in settings where standards involve multiple
20 patents, and where the motivations of patentholders might
21 differ because of their different market situations.

22 Q Could we have Page 542 of Exhibit 294? What do you say
23 about the feasibility of the ex ante approach in your 2009
24 article?

25 A Well, after taking a hard and I must say somewhat tedious

1 look at the assumptions underlying Swanson-Baumol and its
2 extensions to multiple patents -- standards involving
3 multiple patents, I concluded, as the highlighted section
4 says, that in effect it can't be used in practice. The
5 desirable properties are unlikely to be realizable in
6 practice.

7 Q Could we please have the prior Page 541 of Exhibit 294?
8 Explain to Judge Robart the basis for your conclusion that
9 the ex ante model was unlikely to be realizable in practice?

10 A Well, I looked at several of the assumptions that underlie
11 the ex ante model as it existed in the literature. This is
12 one of the most important. Ex ante competition, where
13 standards involve multiple patents, is necessarily
14 competition among alternative standards. To the extent that
15 substituting patents requires changes elsewhere, the issue is
16 what is the value of a standard ex ante? Well, to do that
17 sort of competition in any rigorous way, where a patent
18 has -- a standard has many patents, involves comparing many
19 different standards, in addition to the standard finally
20 adopted.

21 And in this situation I view the standard as having only
22 cost as a single dimensional outcome. In fact, standards
23 have multiple dimensions of performance. That kind of
24 comparison, with even 20 components, would be computationally
25 impossible.

1 Q I would like to turn to the facts of this case. Assuming
2 that there are at least 1,000 essential patents relevant to
3 each of the 802.11 and the H.264 standards, and at least 50
4 different patentholders, what is your opinion about whether
5 the ex ante approach is feasible in this case?

6 A That strict ex ante approach would be completely
7 infeasible in this case.

8 Q Now, turning to the opinions you expressed regarding the
9 views testified to by Microsoft's economist, Professor
10 Murphy, Professor Simcoe and Dr. Lynde, first, is the concept
11 of hold-up addressed in the economic literature?

12 A It is indeed.

13 Q What is the relationship between the RAND commitment and
14 the potential for hold-up?

15 A Well, in short form, the RAND commitment and the whole
16 apparatus exists to deal with hold-up.

17 Q How are RAND licenses typically established in practice?

18 A My understanding is they are typically -- not universally,
19 obviously, but typically established through bilateral
20 negotiation ex post, that is to say after a standard has been
21 established.

22 Q Assuming that SEP holders and standard implementers are
23 sophisticated parties, what is your opinion regarding
24 Microsoft's argument that all licenses negotiated ex post are
25 likely not to be RAND because the royalty includes hold-up

1 value?

2 A Well, let me first express my comfort with your
3 assumption. My understanding is licenses typically are
4 negotiated amongst sophisticated parties. It strikes me as
5 just implausible to say that a system that has been in place
6 for a long time, that parties typically often say to the
7 Federal Trade Commission and in other settings, works; and a
8 system which can, as we see here, be enforced in court, that
9 despite all of that, licensees are routinely signing
10 contracts in which the licensor's obligation is violated.

11 Q Microsoft's economist testified about the ex ante
12 multilateral approach. Are Microsoft's economists in fact
13 proposing an ex ante multilateral approach based upon the
14 theoretical models to be used in this case?

15 A No. They talk about it in reports and depositions and
16 testimony, and then go immediately to reliance on patent
17 pools.

18 Q Let's turn to patent pools. Microsoft's economists
19 testified that patent pools are the most appropriate
20 benchmarks for a RAND license. Do you agree?

21 A No, I don't.

22 Q Why not?

23 A Well, one thing we know about patent pools is that they
24 are often entered into by vertically integrated firms that
25 intend to profit primarily, or at least largely, through

1 sales of products that embody or that practice the relevant
2 standard. Not exclusively, but that is certainly a good
3 predictive of pool membership. And the fact that there is a
4 systematic interest in lowering royalties means that those
5 royalties are systematically below whatever the RAND upper
6 bound might be, making them very questionable as benchmarks.

7 Q Could we have Exhibit 2945, please? Will you identify
8 this exhibit, please, Professor?

9 A Yes, this is a very nice article published by Josh Lerner
10 and John Tirole on public policy toward patent pools,
11 published in an NBER volume.

12 Q Did you rely on this article in forming your opinions?

13 A I did indeed.

14 MR. PALUMBO: Your Honor, we move admission of 2945.

15 MR. PRITIKIN: No objection.

16 THE COURT: It will be admitted.

17 (2945 admitted.)

18 By Mr. Palumbo:

19 Q Could we have the page ending in 604892? Could you
20 briefly describe this article to the court and explain the
21 author's conclusion regarding vertically integrated and
22 nonintegrated firms in patent pools?

23 A Well, this article covers a number of aspects of the
24 patent pools. In this particular section it says study of
25 the MPEG-2 pool. In it they discuss the different incentives

1 and different positions of the various participants in the
2 marketplace, vis-à-vis pools and vis-à-vis licensing
3 separately.

4 Q Can we have 2961, please? If you could identify this,
5 please, Professor?

6 A This is an e-mail from Garrett Glanz at Microsoft to the
7 codecs IP strategy group, which I gather is within Microsoft.
8 And its subject is as listed.

9 Q Did you rely on this e-mail in forming your opinion?

10 A Yes, I did.

11 MR. PALUMBO: Your Honor, we move admission of 2961.

12 MR. PRITIKIN: No objection.

13 THE COURT: It is admitted.

14 (2961 admitted.)

15 By Mr. Palumbo:

16 Q Could we have that page again? Based on the contents of
17 this e-mail, what do you understand is Microsoft's position
18 on licensing its H.264 patents?

19 A Well, my understanding is this has to do more broadly that
20 Microsoft took the general position that fees should be low.
21 And it took the general position that fees should be low as
22 indicated in the second highlighted section because it
23 intended to use the H.264 technology in Windows, and would
24 presumably like to have it inexpensive to use in Windows.

25 Q What is your opinion about whether a rational SEP holder

1 with strong patents and an effective licensing program that
2 wanted to maximize its RAND licensing revenues, would that
3 SEP holder join a pool where firms were pushing for low
4 royalties?

5 A It very likely would not.

6 Q What incentives would be created for vertically integrated
7 licensors if pool rates were held to be the only possible, or
8 the most appropriate, RAND royalty rates?

9 A Well, it would be a very interesting situation in that
10 circumstance, it seems to me. After a standard is set, those
11 firms interested in low licensing rates, low royalty rates,
12 would form a pool rather quickly, and declare low rates. And
13 if that pool's rates were the standard for RAND rates, then
14 other licensors would simply be unable to charge more.

15 Q I'm sorry. Go ahead. I didn't mean to interrupt.

16 A I'm done.

17 Q What would be the impact on SEP holders with valuable
18 standard-essential patents?

19 A In that sort of world they would think twice about
20 participating in standard-setting activities, they might try
21 to develop proprietary standards, or might try to form a
22 consortium outside the standard-setting organizations without
23 the RAND commitment.

24 Stepping back, since licensing through standard-setting
25 organizations under the RAND commitment is at least for some

1 entities an important component of profitability, reducing
2 that component would reduce the incentive to innovate, and
3 thereby slow the pace of innovation in the economy.

4 Q What would be the impact on standard-setting and
5 innovation of requiring SEP holders to accept pool rates as
6 RAND, even where they decide not to join a pool
7 independently?

8 A I thought I just answered that. It would reduce the
9 return to innovation, reduce the return to participating in
10 standard-setting and unwind the regime and slow innovation to
11 some extent broadly.

12 Q Microsoft's economists say the court should use pool rates
13 because the patent pools pursue the same objectives as the
14 standard-setting organizations themselves. First, whose
15 objectives do the pool members pursue?

16 A Well, unless they behave differently from other firms, the
17 pool members pursue their own objectives.

18 Q Do pool members generally pursue the SS0's interest in
19 achieving broad adoption of a standard?

20 A Yeah, it is my understanding that is generally a key
21 objective of patent pools.

22 Q And do pool members generally pursue the standard-setting
23 organization's interest in having valuable standards
24 developed?

25 A No. That is where the difference would arise. By and

1 large, once the standard is developed, from the pool's point
2 of view there is no particular advantage in providing a
3 reasonable return to the holders of the intellectual property
4 in the standard. Whereas the standard-setting organization,
5 as we have discussed, wants to balance creating the standard
6 by providing reasonable rewards and having it deployed by
7 making sure the returns are not unreasonable.

8 Q Microsoft's economists say that the economic literature
9 recognizes royalty stacking as a concern. Do you agree?

10 A Yes.

11 Q What is your opinion about whether royalty stacking is a
12 serious problem in the real world?

13 A It does not appear to be, in the sense that those who have
14 looked for actual evidence, as opposed to the predictions of
15 relatively simple theoretical models, haven't found it.

16 Q Do the IEEE or ITU have policies that explicitly require
17 licensors to address royalty stacking?

18 A No, they do not.

19 Q Could we have 2982, please? If you would identify this
20 exhibit, please, Professor?

21 A This is a paper -- it maybe the working paper version, but
22 I think subsequently published paper by Damien Geradin, Anne
23 Layne Farrar and Jorge Padilla, entitled, "Royalty Stacking
24 in High Tech Industries, Separating Myth from Reality."

25 Q Did you rely on Exhibit 2982 in forming your opinions?

1 A I did indeed.

2 MR. PALUMBO: We move admission, your Honor, of 2982.

3 MR. PRITIKIN: No objection.

4 THE COURT: It is admitted.

5 (2982 admitted.)

6 By Mr. Palumbo:

7 Q What did the authors of this article conclude?

8 A Well, the authors of this article conclude that, doing
9 some analysis of their own in surveying the excellent
10 literature at that point, they find that no one has found
11 evidence of royalty stacking. They offer some variations on
12 the simple theory to suggest reasons why that might be. But
13 in any case, they find no evidence of royalty stacking.

14 Q In your opinion, what is the most appropriate approach to
15 evaluate and determine RAND terms and conditions?

16 A It is to conduct a hypothetical bilateral negotiation
17 under the RAND obligation.

18 Q Why is the hypothetical bilateral negotiation approach the
19 most appropriate way to determine RAND rates?

20 A Well, there are three reasons. First, that is typically
21 how RAND rates are determined in practice, so in a sense
22 simulating that process, simulating what goes on in practice.
23 Second, because that is what goes on in practice, there is
24 evidence of the results of such negotiations that can be
25 used.

1 And, third, the courts have experience in doing
2 hypothetical bilateral negotiations under the so-called
3 Georgia-Pacific framework.

4 Q Would you modify the Georgia-Pacific factors in the RAND
5 context?

6 A As I have read the decision -- This is not something I
7 was asked to work on. But as I read the decision, the
8 Georgia-Pacific decision, it does not contemplate the RAND
9 obligation. And so one would want to modify it to take that
10 into account in broad terms.

11 Q What type of evidence is most relevant to determining RAND
12 royalty rates using a hypothetical bilateral negotiation?

13 A Well, no evidence is ever going to be perfect, but it
14 seems to me that evidence as to the rates negotiated
15 bilaterally under the RAND commitment by the same licensor
16 for the same patents would be about as close as you could
17 come.

18 Q Microsoft's economists contend that Motorola's prior
19 licensing history is not relevant, because any license
20 negotiated after a standard is set may include hold-up. Do
21 you agree?

22 A This goes back to the earlier question. I think that is
23 such a strong statement that it essentially indicts the
24 entire regime -- entire RAND regime. I have seen no evidence
25 that is a supportable indictment.

1 Q Do Microsoft's economists offer any evidence that
2 royalties in Motorola's prior RAND licenses include hold-up?

3 A No. As I recall, they have admitted they have no such
4 evidence.

5 Q Could we see Exhibit 2970, please? What is this exhibit,
6 Professor?

7 A This is a submission to the Federal Trade Commission in
8 the context of a workshop they had on standards in
9 intellectual property, broadly, from Microsoft. And it is
10 signed, as I recall, by Amy Marasco, a senior licensing
11 official at Microsoft, and David Heiner, the deputy general
12 counsel at Microsoft.

13 MR. PALUMBO: Your Honor, 2970 is previously
14 admitted.

15 By Mr. Palumbo:

16 Q Could we have the page that is 54686? What does Microsoft
17 say about how to avoid hold-up?

18 A Well, Microsoft says, first, that the problem rarely
19 arises in that first sentence, only a limited number of
20 situations where it takes place. And then they go on, those
21 situations are best addressed through bilateral negotiations,
22 and they note, in rare cases litigation, as opposed to
23 modifying the policies or regulatory intervention. This is
24 fundamentally, it seems to me, a statement that the RAND
25 system works pretty well.

1 Q What is your opinion on whether royalties based upon a
2 percentage of the end-product price are appropriate RAND
3 terms?

4 A They can be appropriate RAND terms.

5 Q Is there evidence that RAND royalties based on end-product
6 prices are common?

7 A I could point to two sorts of evidence. First, it is my
8 understanding that Motorola has negotiated dozens of such
9 royalties.

10 Second, looking more broadly, not necessarily under the
11 RAND commitment, but looking more broadly in industry,
12 royalties based on a percentage of sales are relatively
13 common.

14 Q Can we have 2922, please?

15 THE COURT: Excuse me. You said percentage based on
16 sales. You mean sales price?

17 THE WITNESS: Yes, your Honor. This is trying to
18 talk faster than my brain works. Royalty based on a
19 percentage of sales price is what I intended to say.

20 By Mr. Palumbo:

21 Q What is Exhibit 2922?

22 A This is the first page of a publication called the
23 Licensing Economics Review.

24 Q What did you rely upon this article for?

25 A What I relied on I think is on perhaps the next page. It

1 is --

2 MR. PRITIKIN: Your Honor, the document has not been
3 offered. We do have an objection to the document. If he is
4 simply laying a foundation, that is one thing. But if there
5 is going to be testimony about it, we do object.

6 MR. PALUMBO: I'm sorry. I was going to interrupt
7 you, Professor.

8 By Mr. Palumbo:

9 Q First, just tell us generally what you relied on the
10 article for.

11 A I relied on it simply for the fact that in their database
12 of licenses, licenses in which royalties are based on a
13 percentage of sales are common.

14 Q And did you rely on this article in any respect regarding
15 the level or percent of royalties?

16 A No, I did not.

17 Q Is it correct that you did not rely on the information on
18 the page displayed in front of us?

19 A No, I did not rely on that page.

20 MR. PALUMBO: We move admission of 2922, your Honor.

21 MR. PRITIKIN: We object on the basis of foundation
22 and hearsay, your Honor. I don't know exactly what he is
23 going to use it for. We do not believe the document should
24 be admitted for the truth of the matters asserted. There are
25 royalty rates that are described there. There is no way of

1 ascertaining from the document how those were derived, what
2 they are based on. And if the document is admitted,
3 obviously it is in the record for all purposes.

4 MR. PALUMBO: Your Honor, as Professor Schmalensee
5 has already said, he did not rely on this for royalty rates,
6 and we have no objection to making it clear that none of this
7 testimony relates to rates, but rather this is a document
8 that he relied upon, as he said, for the general proposition
9 that royalties based on a percentage of sales are common in
10 the industry.

11 MR. PRITIKIN: The same problem, your Honor. There
12 is no basis for figuring out where these numbers come from,
13 how they were derived, who did it, what they were looking at,
14 whether they converted things into percentages.

15 THE COURT: I am going to allow use of the document
16 as it was used by the witness to form his expert witness
17 testimony. I believe that the objections are appropriately
18 covered by cross-examination.

19 By Mr. Palumbo:

20 Q Could we have Page 125? If you would explain the
21 information you did rely on on this page and the conclusions
22 you reached?

23 A Well, the first paragraph indicates that this is based on
24 a database. It indicates where it comes from, that it
25 contains 9,000 public and private licensing transactions.

1 Subsequent paragraphs go on to say that a number of the
2 transactions were excluded because they didn't involve
3 patents or they didn't involve the industries of interest.
4 The only number of great interest to me is the bottom of the
5 table on the right-hand side, the 4,385. That is close to
6 half the transactions in the original database that they say
7 are based -- in which royalties are based on a percentage of
8 sales.

9 Q Is it unreasonable, Professor, to use a percentage-based
10 royalty for end-product prices where the prices of the end
11 products differ based on unrelated technological components
12 included in the product?

13 A Again, it may be.

14 Q Given that the price of different Xbox models increases
15 with the addition of more hard-drive space or the bundling of
16 a connect motion-control device, would it be unreasonable to
17 apply a single percentage-based royalty to the end price of
18 various Xbox models?

19 A It may not be unreasonable at all. To the extent that the
20 important use of the Xbox is downloading games from the
21 internet or playing games on the internet, just to go to an
22 example, more memory may permit downloading more games, may
23 permit playing more games, the controller may permit playing
24 more games, all of which are accessed through the 802.11
25 functionality. So having the additional memory, and perhaps

1 the connect, not implausibly makes the 802.11 functionality
2 more valuable. To the extent it makes it more valuable, it
3 is not unreasonable to have a higher royalty attached.

4 Q Is it unreasonable to use the price of Microsoft's Xbox as
5 a base for a percentage royalty where the dollar amount of
6 the 802.11 license would exceed the cost of the Marvell WiFi
7 chipset in the Xbox?

8 A It is certainly not uncommon for the price of a product to
9 vastly exceed the cost or price of the hardware involved
10 because of intellectual property. One can point to the price
11 of Windows versus the cost of delivering Windows. It is not
12 uncommon at all. I think -- I will stop there.

13 Q Would your answer be different if the Marvell WiFi chipset
14 alone does not provide all of the 802.11 functionality?

15 A No it would not. I would point out that the price of the
16 Marvell chipset at the moment, as I understand it, includes
17 nothing for intellectual property.

18 MR. PALUMBO: Thank you, Professor. Those are all my
19 questions. Thank you, your Honor.

20 CROSS-EXAMINATION

21 By Mr. Pritikin:

22 Q Good afternoon, Professor.

23 A Good afternoon.

24 Q Let's just pick up with the last point about the Marvell
25 chips. Is it your testimony that they don't embody any

1 intellectual property?

2 A No, it is my understanding that they have not licensed
3 anything related to 802.11, so that the 3- or \$4 price is a
4 price before, if you will, that intellectual property at
5 least.

6 Q Have you read the testimony of Jennifer Ochs from Marvell
7 that was given in these proceedings?

8 A I did actually, yes.

9 Q You are aware of her testimony, that Marvell has several
10 hundred patents that they believe are essential to 802.11?

11 A Oh, the return on their patents? Yes. If I indicated
12 there was no intellectual property in the chip, there is no
13 license paid in the chip. I also heard testimony earlier
14 today that these are commodity products.

15 Q So you are differentiating between their intellectual
16 property and other people's intellectual property, to be
17 clear?

18 A To be clear, I was saying there were no license fees
19 embodied in that price.

20 Q Now, you have written that the RAND commitments exist to
21 address hold-up. And I think you told us that again earlier
22 this afternoon?

23 A Yes.

24 Q And there is another Motorola expert in this case, Charles
25 Donohoe, who has estimated what he says are RAND royalties

1 for the Motorola patents in this case. But you don't know,
2 do you, as you sit here today, whether Mr. Donohoe included
3 any hold-up value in his royalty estimate?

4 A I have not reviewed his work, no, sir.

5 Q Now, as a matter of economics, just because a company
6 invests a lot of money in research and development, that
7 doesn't mean that it should be entitled to any particular
8 return on its investment, does it?

9 A Absolutely not.

10 Q Now, if the holder of a standard-essential patent
11 approached a user of the standard, and succeeded in holding
12 the user up, the hold-up royalty would be reflected in a
13 bilateral agreement, right?

14 A I think it is tautology, the way you asked the question,
15 yes.

16 Q Now, if we have two patent portfolios with different
17 patents that relate to different standards, it would be your
18 expectation that those portfolios would differ in value,
19 right?

20 A As a general matter, yes.

21 Q And you are aware that there are some Motorola licenses in
22 which licensees were given rights to Motorola's cellular
23 portfolio and its 802.11 portfolio of essential patents,
24 correct?

25 A I am aware of that, yes, sir.

1 Q Now, you have not yourself looked at how one would figure
2 out what part of the royalty was apportionable to the
3 cellular telephone network essential patents, and what part
4 was apportionable to the 802.11 standard-essential patents,
5 correct?

6 A I have not. And the problem becomes particularly
7 difficult, just to be clear, if there are patents that
8 contribute -- that read on both.

9 Q And as an economist, you think it would be a mistake
10 simply to assume that all of a two and a quarter percent
11 royalty was attributable in those circumstances to the 802.11
12 standard?

13 A Without further information and judgment, to do that
14 without critical thinking and expertise would be a mistake.
15 I would want to inquire if I were doing it. As it happens, I
16 am not.

17 Q Now, on their face licenses to a standard-essential patent
18 portfolio for a cellular telephone network standard would not
19 appear to be relevant to a RAND analysis involving a
20 video-compression standard, right?

21 A Unless, of course, there were patents common to both.

22 Q And you are aware, are you not, that there are no patents
23 common to the cellular portfolio and the video standards?

24 A The video standards I am pretty much aware of, yes, sir.

25 Q And so you don't think that would be relevant, do you?

1 A I would need to go back to the original question. I'm
2 sorry. What would be relevant?

3 Q Licenses to standard-essential patent portfolio for a
4 cellular telephone network would not appear to be relevant to
5 a RAND analysis involving a video-compression standard,
6 right?

7 A If there were no overlapping technologies, on its face it
8 wouldn't appear to be relevant. But, of course, I am not
9 expert in the technologies or in licensing.

10 Q So that if H.264 video standard-essential patents were
11 licensed together with patents that were essential for other
12 standards, one would need to estimate the value of the other
13 patents and subtract it out, right?

14 A Yeah. I testified to that in my deposition. And I may
15 have been a little bit glib in asserting that one could
16 actually do that quantitatively. But certainly one would
17 want to address that issue one way or another.

18 Q A pretty tough thing to do, isn't it?

19 A I should think so.

20 Q Have you read Motorola's trial brief in this case?

21 A I have.

22 Q And you know you are mentioned in it?

23 A I did notice that. One always does.

24 Q Now, Motorola said in the trial brief that Professor
25 Schmalensee will explain that the most appropriate way to

1 reconstruct the negotiation is to employ a modified form of
2 the well-known Georgia-Pacific hypothetical negotiation. You
3 are aware of that?

4 A I am aware of that. And that was my testimony a few
5 minutes ago.

6 Q Now, you have never done a Georgia-Pacific analysis or a
7 modified Georgia-Pacific analysis, have you?

8 A No, I have not.

9 Q And when you were asked at your deposition how a
10 conventional Georgia-Pacific analysis should be modified to
11 make it suitable to determine a RAND royalty, you said you
12 would leave the details of that to the patent licensing
13 experts; is that right?

14 A I did.

15 Q But you did spend about a half hour on the telephone with
16 Charles Donohoe, the Motorola expert who actually performed
17 this modified Georgia-Pacific analysis?

18 A I did. We discussed ex ante versus sort of hypothetical
19 negotiation, yes. And some of the -- I learned a little bit
20 about the case, yes.

21 Q You did not describe your modified Georgia-Pacific
22 analysis to him in any detail, did you?

23 A Well, we talked at deposition about my modified
24 Georgia-Pacific analysis. I will say here, as I said then,
25 that I didn't have a proposal, other than to entrust to an

1 experienced and knowledgeable licensing professional the task
2 of modifying that analysis in light of the RAND commitment.

3 So there was no "my modified Georgia-Pacific approach," there
4 was simply my recommendation that it be modified carefully
5 and thoughtfully to take into account the RAND commitment.

6 Q So it is fair to say that you did not have an input into
7 how this was -- Georgia-Pacific was modified to do the RAND
8 determination?

9 A That is correct.

10 Q At the time of your deposition you said that you had not
11 formed an opinion about whether Mr. Donohoe's modified
12 Georgia-Pacific analysis was appropriate or not; is that
13 correct?

14 A That's correct. I don't believe I read it in any detail
15 by then.

16 Q Again, in the Motorola trial brief they made the
17 statement, as Dr. Schmalensee will explain, there is
18 significant support in the literature for employing a
19 methodology like Georgia-Pacific to determine RAND terms.
20 You have seen that sentence in the trial brief?

21 A I have seen that sentence. I didn't recall it until you
22 just read it.

23 Q But during your deposition you were unable to cite a
24 single paper in a peer-review journal that advocated using a
25 modified Georgia-Pacific analysis to determine a RAND

1 royalty, right?

2 A There have been a number of papers I have seen since. We
3 haven't cited them or introduced them.

4 Q In your own scholarly publications you have actually
5 criticized the Georgia-Pacific factors in the patent damages
6 context, because they leave the specific method of royalty
7 determination an open question, and thus allow for
8 considerable uncertainty in outcomes?

9 A That is certainly what we said in the 2007 paper, it would
10 have been nice if one could do better. But I'm afraid one
11 can't.

12 Q Let's go back to that paper, Exhibit 1674. Now, you
13 testified a little about this article on direct?

14 A I did indeed.

15 Q And in this paper you proposed two economic models for
16 determining a RAND royalty, right?

17 A Well, no. On the conclusion I read, we said we didn't
18 advocate using them to determine royalties. We used them to
19 gain insight.

20 This paper, I must say, was primarily a reaction to the
21 notion then floating that numerical proportionality was the
22 only way to go. We looked at two ex ante approaches and
23 said, gee, both of them indicate numerical proportionality is
24 not generally consistent with RAND or FRAND. Again, in this
25 statement that I read earlier we did not -- explicitly did

1 not advocate their use to compute royalty rates.

2 Q Let me rephrase that. You discussed two economic models;
3 is that fair to say?

4 A That's fair to say.

5 Q Now, if we turn over to Page 675, and we go about a third
6 of the way down, you wrote "While the Georgia-Pacific factors
7 may make good guidelines, albeit varyingly applied by the
8 courts for FRAND licensing evaluations under general
9 circumstances, we argue that the two economic models provide
10 the most solid framework for courts and competition
11 authorities faced with FRAND cases." That is what you wrote
12 in 2007, is it not?

13 A Indeed it is. May I clarify --

14 Q Let me come back to that in a minute.

15 MR. PALUMBO: I think the witness is permitted to
16 clarify, your Honor.

17 THE COURT: Are you clarifying?

18 THE WITNESS: I was going to comment on that quote.
19 But since there wasn't a question I was answering, I think I
20 am out of turn.

21 By Mr. Pritikin:

22 Q You testified on direct about what you characterized as a
23 strict ex ante approach being unrealistic. Do you recall
24 that testimony?

25 A Yes.

1 Q And what you were referring to there was an auction system
2 that had been proposed by Professor Baumol and others; is
3 that right?

4 A Yeah, I was generalizing that to more complicated
5 settings. I said while it might in principle be workable in
6 a one-patent standard, under very strong assumptions it broke
7 down rather dramatically.

8 Q That was an auction system they were proposing might be
9 used in advance of a standard being set up or around that
10 time?

11 A They were proposing rigorous ex ante competition, yes.

12 Q It was an auction system, was it not, sir?

13 A Yes.

14 Q Now, would you turn to Page 684 to 685 of the article?
15 Let's look at the bottom of Page 684. You wrote, "If a
16 technology is easy to invent around, or has a ready supply of
17 close substitutes, it is likely to receive a relatively lower
18 compensation than others. There is no reason to impose
19 different valuation principles for technologies in a
20 standard-setting context." Now, you have not departed from
21 that belief, have you?

22 A No, I haven't.

23 Q Let's turn over to Page 706. And in the conclusion you
24 wrote, "If a component had multiple alternatives before the
25 standard was settled, its incremental contribution, properly

1 measured, may be close to or equal to zero."

2 A Right.

3 Q Was that your view?

4 A That was my view. That is the basic -- that and the
5 failure of numerical proportionality is what one gets out of
6 the economic models. It is hard to get much more.

7 Q Now, you testified a little about stacking. If you wanted
8 to determine whether a royalty for Motorola's 802.11
9 standard-essential patents was consistent with its RAND
10 obligation, you would want to look at the value of the
11 overall standard and Motorola's contribution to that value,
12 correct?

13 A I think that would be a way to approach it, yes.

14 Q And, finally, you were asked on direct about Exhibit 2922,
15 and about the use of percentage royalties. That article was
16 not focused on RAND royalties, was it?

17 A No, it was not.

18 MR. PRITIKIN: No further questions, your Honor.

19 MR. PALUMBO: I have nothing further, your Honor. I
20 will turn it over to you.

21 THE COURT: I do have some questions.

22 THE WITNESS: I thought you might, your Honor.

23 EXAMINATION BY THE COURT

24 THE COURT: Ex post and ex ante. In an ex ante
25 posture of negotiations, doesn't the patentholder still have

1 his monopoly power in pricing?

2 THE WITNESS: Not if there are close substitutes. I
3 suppose we are trying to -- Take the Swanson-Baumol kind of
4 example. We are trying to come up with a standard for --
5 Unfortunately they do it in terms of cost. We are trying to
6 come up with a standard widget. There are two possible ways
7 to make widgets. They are covered by one patent. It is
8 difficult -- Sorry. They need a piece of patented
9 technology. There are two patents, both of which will
10 produce a widget. One of them is better than the other. But
11 the other will produce a widget. So it is difficult for the
12 one that is inferior, even though, yes, it has a monopoly
13 over that piece of intellectual property, it is difficult for
14 it to extract much value, given that there is a superior
15 alternative available.

16 If, of course -- And this is the essence of hold-up, if
17 you will permit me to run on here. If somehow the inferior
18 one was selected as a standard, yes, indeed it would have
19 value ex post. But in ex ante, the two are competing to see
20 which one is going to be the widget, the better one will win.
21 But its power is limited by the fact that there is the other
22 one.

23 THE COURT: But if we assume that the better product
24 is normally the one that is going to be adopted by the
25 standard, then it seems to me that your contention that there

1 are competitive products and that reduces monopoly power may
2 not be as applicable.

3 THE WITNESS: Let me first say, one of the points of
4 my direct testimony was, when you get away from the simple
5 one-patent examples it gets very complicated, because when
6 you take one patent out of a standard and put another one in
7 you may make other changes, the performance of the standard
8 is multidimensional, different people value different
9 aspects. But ex ante, before the standard is set, one
10 imagines competition to be the standard.

11 In the kind of auction that Swanson and Baumol talked
12 about, you put a bid, here is the royalty we will charge.

13 THE COURT: You agree that auction model has not been
14 adopted?

15 THE WITNESS: I don't think it could be adopted. A
16 number of authors have talked about variations on it. But to
17 be clear, that model, if you could do it, has desirable
18 properties. The notion of let's get everybody in a room and
19 have multilateral negotiations, who knows what will come out
20 of that.

21 THE COURT: Let's then go to the ex post standard or
22 posture. At that point the industry standard has been
23 issued. The monopoly power seems to me to be taken away
24 because of the RAND rate.

25 THE WITNESS: That's the point, your Honor. And when

1 the RAND commitment is effective, although it is not as
2 precisely defined as the impossible-to-execute auction, it is
3 a commitment that seems to work, that says you don't take
4 advantage of that -- of the monopoly power you've got from
5 being included in the standard. You are entitled to some
6 ill-defined measure return on the value of the property, but
7 you are not entitled to the incremental value that you get
8 because you are part of a standard.

9 THE COURT: Well, if that's the case then -- and this
10 seems to me to be something that Judge Posner struggled with
11 in his recent decision, should I measure this at the ex ante
12 time or the ex post time?

13 THE WITNESS: Your Honor, I think -- The reason I
14 come down to bilateral negotiations ex post is that is all we
15 can see. If the RAND system works, as most people think it
16 does, then the notion that those ex post contracts are
17 infected with the kind of monopoly power we have just been
18 talking about is difficult to sustain.

19 And, frankly, you can't easily do the ex ante approach
20 here. The ex ante approach requires you to step back and
21 think about alternative standards. And nothing I have seen
22 in this case would enable you, me or anybody else to make
23 that kind of determination.

24 So it seems to me -- I hate to sound like I am giving you
25 advice, but it seems to me that what you have is what

1 happened ex post. And the question is, what can be used
2 among the ex post contracts. There is the pool, there are
3 bilaterals, there is related technology. And somehow out of
4 that one needs to say what is the upper bound or what is the
5 RAND range for the set of SEPs at issue. I don't think you
6 can do ex ante. In fact, Microsoft's economists, while they
7 talk about what a swell thing it is, don't propose doing it.

8 THE COURT: I am trying to puts words in your mouth.
9 Would you agree with me that court enforcement in situations
10 of bilateral negotiation breakdown are necessary in standard
11 industry agreements?

12 THE WITNESS: I think so, your Honor. I mean, again,
13 I don't hold myself out as somebody who is deeply
14 knowledgeable. But that was the statement in the Microsoft
15 letter that I quoted, and it is consistent with my
16 understanding, that at some point in a dispute like this, how
17 else does it get settled? The court needs to step in and say
18 what is good faith, what is RAND.

19 THE COURT: In fact, is there a way that an
20 industry-essential RAND commitment can be enforced if
21 ultimately there isn't some third-party adjudicator available
22 in place of a breakdown?

23 THE WITNESS: Again, I don't hold myself out as a
24 brilliant designer of institutions. But I find it hard to
25 see how else. You can imagine the standards organizations

1 providing for compulsory arbitration, or something of that
2 kind. But in the absence of a mechanism like that explicitly
3 provided for, it goes to the courts. The licensor has an
4 obligation. Did the licensor meet the obligation? Are they
5 negotiating in good faith? I don't see who else could reach
6 that sort of conclusion.

7 THE COURT: Very early in your testimony you were
8 talking about why a higher price could be reasonable. I
9 understand why that could be reasonable to the patentholder,
10 but it seems to me that the R word, reasonable, in the RAND
11 commitment goes to the terms, not to the patentholder?

12 THE WITNESS: Well, it goes to the terms of the
13 license. My only point is, it is an upper bound. It is the
14 seller, the licensor, has to -- The terms at the end of the
15 day have to be reasonable. Would lower terms also be
16 reasonable? Of course. If I am selling snow shovels for \$10
17 and I decide one day to sell them for \$5, that is reasonable.
18 If I decide to sell them for \$20 when the snow is falling we
19 could have a conversation.

20 THE COURT: I think I am trying to address the
21 question of may someone come in under a contractual
22 obligation to offer RAND terms and offer an unreasonably high
23 rate because it is reasonable to them?

24 THE WITNESS: No. No. That is not right. What I
25 meant to say was, they are obligated. Their happiness is not

1 really the test. It is a balancing issue of, given their
2 contribution to the standard, and given presumably the
3 commercial realities, is that the sort of rate that
4 reasonable people in this setting experienced in the art
5 would negotiate. It is not the licensor's happiness
6 exclusively, or the commitment has no meaning.

7 THE COURT: You briefly touched on the question of an
8 industry-essential patent, the holder is not in a pool.
9 Doesn't that implicitly give them some power to stifle
10 innovation, because the innovator wants to use the standard
11 but now needs to deal with this essential patentholder?

12 THE WITNESS: I'm not sure I understand. The RAND
13 obligation --

14 THE COURT: That's not surprising.

15 THE WITNESS: The RAND obligation requires them to
16 offer a license in good faith, so they can't -- if they are
17 under that obligation they can't simply not return phone
18 calls and stifle use of the standard that way. And, of
19 course, if they are in the pool, then there is no
20 negotiation, you sign the pool rate. If they are not in the
21 pool, their obligation is to negotiate in good faith and go
22 to a nonexclusive license that is reasonable and
23 nondiscriminatory. That is an actual obligation. It
24 doesn't empower them to stifle the innovation by refusing to
25 negotiate, by being unreasonable throughout, by doing a

1 variety of other things. It requires them to behave
2 reasonably and in good faith. Now, interpreting that, of
3 course --

4 THE COURT: You mentioned the key words in there,
5 "good faith." What prevents that non-pool essential
6 patentholder from saying 25 times what it is actually worth,
7 and now I have opened my negotiations, you respond?

8 THE WITNESS: I think at some level, your Honor, if
9 there is that kind of obstructionist behavior they will find
10 themselves before you or other judges. I think, as you say,
11 there needs to be an enforcement mechanism of some sort,
12 difficult as it is to find bright lines in this setting.

13 THE COURT: How is it that parties to a RAND
14 negotiation take into account stacking?

15 THE WITNESS: That is an interesting question. The
16 early stacking literature says, gee, if there are ten
17 patentholders, and indeed there are hundreds -- maybe dozens
18 of patentholders, and they all announce terms, what is to
19 prevent them from announcing terms that in aggregate are
20 ridiculous? And then you look at people who say, well, does
21 that ever happen? Do we ever have a commercially
22 attractive -- a technically attractive standard that fails
23 because terms in aggregate make it infeasible and it just
24 drops? That's where the evidence doesn't appear.

25 I have seen a couple of rationales for that, if I may.

1 How do you explain the difference between the simple theory
2 and the observed practice? First of all, patent rights are
3 often not asserted in this part of the world, so you don't
4 face 50 licensees -- or licensors. Often people hold patents
5 for defensive reasons.

6 Second, no sophisticated licensee is going to be unaware
7 that there are multiple licensors, so the negotiation
8 naturally takes this into account.

9 And, third, in one of the papers we just introduced there
10 is some interesting theorizing that says, well, instead of
11 everybody announcing their license terms all at once, suppose
12 licensors show up sequentially. That makes a difference. If
13 we all announce at once then basically -- If I take a lot,
14 it comes out of everybody's hide. If I am negotiating with
15 you one-on-one, then if I reduce the value to you, in effect
16 it reduces my profits. So in theory the problem is
17 attenuated if the negotiations are sequential, as they are in
18 real life. It is certainly attenuated if a lot of people
19 don't assert patent rights.

20 The other thing I should have mentioned is, a lot of these
21 people interact repeatedly as licensee/licensor, they are on
22 both sides of the fence. If I am unreasonable today, and we
23 don't think about stacking, and I try to cram something down
24 your throat, I run the risk that you do that to me tomorrow,
25 and we spend our life in court. Now, some of that may have

1 happened. But this repeated game aspect of it, it is the
2 fact that if I behave unreasonably today in light of the
3 existence of multiple licensors, you may do the same thing to
4 me tomorrow, so I have an incentive to be restrained. It is
5 an interesting phenomenon.

6 I must say when I read the early stacking articles I said,
7 oh, boy, this must be a terrible problem. And then you talk
8 to people in the industry. And, "well, not so much." I
9 think those are some of the reasons. I'm sorry to take so
10 much time.

11 THE COURT: It is their time.

12 THE WITNESS: I may not be allowed out of the
13 courtroom alive.

14 THE COURT: Let's substitute hold-up then for
15 stacking. Any different answer?

16 THE WITNESS: Hold-up. There are a number of
17 examples of hold-up, which generally -- at least the ones I
18 am familiar with, apart from allegations that come up as part
19 of disputes, have to do with hidden intellectual property.
20 Rambus -- I think there was a Dell case, where someone holds
21 a patent, sits quietly on the sidelines, waits until a
22 standard is adopted, they don't have a RAND commitment, they
23 come out from under the bridge like the troll and they
24 hold-up. There are examples of that. And we have seen them.

25 Hold-up by somebody under a RAND obligation is less often

1 alleged. Again, you saw the Microsoft letter in which they
2 tell you it is rarely a problem. That's about all I can say.

3 THE COURT: Our review of the academic literature,
4 and I am particularly taken with Professor Hovenkotter out of
5 Iowa, it is abundant in its discussion of hold-up and
6 stacking. And yet everything that I have heard in the last
7 two weeks has said it is not an issue, Judge. What is going
8 on here? You just don't have anything better to write about?

9 THE WITNESS: The theories are nice, your Honor, and
10 they are a lot of fun to play with. Look, I think stacking
11 is a little bit of a puzzle. The question is why do the
12 simple models simply not work? How come this bumblebee
13 flies? Even with 50 SEP holders you would expect to have
14 very, very high aggravate royalty rates. I gave you my
15 thinking, which I'm not sure is even fully persuasive to me.

16 I think the answer to hold-up is a lot of this repeated
17 game story, I license you, you license me; if I am
18 unreasonable to you, you are going to be unreasonable to me
19 tomorrow.

20 In most cases vertically integrated firms who hold
21 intellectual property want low rates so that the standard is
22 widely accepted, so that they can profit from employing it.
23 I think that is an important reason. It is the fact that
24 you've got repeated interactions between vertically
25 integrated firms. That's an important factor in mitigating

1 hold-up, and the ability to enforce the RAND commitment in
2 court, none of which is in simple models.

3 THE COURT: I would like to close by looking at the
4 293 exhibit, your article on pricing patents. If you have it
5 there --

6 THE WITNESS: I may have it here. Just a moment.

7 THE COURT: Are you still in agreement with one
8 option is extending Georgia-Pacific, which is the primary
9 case guiding reasonable royalty determinations in patent
10 infringement cases in the United States?

11 THE WITNESS: I'm sorry. To use it in RAND setting?

12 THE COURT: Yes.

13 THE WITNESS: I am, your Honor, despite all of the
14 negative things that my co-authors and I have said about it.
15 I don't see a better feasible approach.

16 THE COURT: If you've got it there, Page 675.

17 THE WITNESS: I'm sorry. It is 293, Page 675.

18 THE COURT: In my black folder.

19 THE WITNESS: I've got it.

20 THE COURT: Are you still in agreement on 675, "In
21 particular, whether the evaluation is based on ECRP or a
22 Shapely value approach, FRAND licensing must consider two key
23 factors, contribution of the patented invention to the
24 standard and the existence of any substitute technologies and
25 the general level of competition"?

1 THE WITNESS: These are the implications of the kinds
2 of ex ante analysis we could do. They generalize to the
3 extent that one wants to take the ex ante approach seriously.
4 And I think that is not unreasonable. These are, I think,
5 the two messages it gives you.

6 THE COURT: Missing in there in number one is the
7 contribution of the patented invention to the standard. But
8 then the question of the contribution of the standard to the
9 product, if you are talking about a patent royalty based --

10 THE WITNESS: We had in mind here, if you will, the
11 division of a pie. And this has to do with the size of the
12 piece, not the size of the pie. You're right, you want to
13 consider the value of the standard.

14 THE COURT: Turning then to 681. You have listed the
15 Georgia-Pacific factors, and make the statement, "These
16 factors not already applicable could easily be extended. For
17 instance, Factor 13 could be modified." Is that still
18 generally your position, that some modification of these is
19 appropriate on a case-by-case basis?

20 THE WITNESS: Well, I think -- Yes, sir, your Honor.
21 For instance, Factor 4 talks about a licensor's policy of not
22 licensing others. Well, clearly under a RAND commitment such
23 a policy can't be operative. And while I didn't look at --
24 either in this little -- this discussion -- this one-sentence
25 discussion of Factor 13, or more generally I didn't try to

1 indicate how they might be modified to take into account the
2 RAND commitment, that just goes beyond my expertise, it is
3 clear you would want to think hard about that. One would
4 want to think hard about that.

5 THE COURT: The last question. On 682 we have talked
6 about the necessity of some third-party adjudicator, either
7 the court system, mandatory arbitration, whatever. If that
8 is deemed an acceptable cost for standard-setting, would the
9 Georgia-Pacific factors work in RAND or FRAND disputes?

10 THE WITNESS: I think so. I mean, you are pointing
11 to the -- Let me see if I get the context. Yeah, you are
12 saying that Georgia -- the application of Georgia-Pacific
13 necessarily involves some uncertainty. I think it is
14 irreducible uncertainty, your Honor. I think it is an
15 acceptable cost. I don't see how one can have a commitment
16 if the commitment is not in some way enforceable. I don't
17 see a better approach to enforcement as a general matter than
18 the hypothetical bilateral negotiation approach for the
19 reasons I indicated in my direct.

20 THE COURT: All right. My last point is not going to
21 be a question, but thank you for the statement: "The judge
22 would either choose one of those proposals or justify a
23 third, which the parties would then have to implement." That
24 seems like great wisdom.

25 THE WITNESS: I credit my co-authors, your Honor.

1 THE COURT: Mr. Palumbo, anything further? I thought
2 that might draw you to your feet.

3 MR. PALUMBO: I have to get my watch anyway.

4 REDIRECT EXAMINATION

5 By Mr. Palumbo:

6 Q Just a few questions, because your discussion with Judge
7 Robart was interesting to me. Let me ask you a few
8 hypotheticals.

9 Suppose that you have a number of firms -- both
10 patentholders and firms seeking to implement the standard
11 that enter into a pool, and those firms are hardware and/or
12 software manufacturers who will derive the greatest value
13 from selling their standard implementing hardware or
14 software. So their interest is in maximizing sales of
15 software as opposed to maximizing patent royalties. And
16 accordingly they agree to a low RAND -- low rate for the
17 pool. That could be RAND, correct?

18 A That could be RAND.

19 Q The second situation. Now you have the first licensor.
20 The first licensor, his or her interest is to maximize
21 royalties, and that licensor makes good on its RAND
22 commitment. But if its interest is in maximizing royalties,
23 could a bilateral negotiation result in a higher royalty than
24 the pool rate and still be RAND?

25 A Yes. Holding constant the value of the underlying

1 intellectual property, say, the bilateral negotiation could
2 result in a higher rate that would nonetheless be RAND.

3 Q One more. The second licensor wants to maximize
4 royalties. And, two, the second licensor happens to make a
5 higher value contribution to the standard than the first
6 licensor. Could you have a bilateral negotiation that
7 results in a royalty that is higher than the royalty
8 commanded by licensor one and still have that higher royalty
9 be RAND?

10 A If I understand your question correctly, the answer is
11 yes.

12 Q If you have -- In both situations, first licensor and/or
13 second licensor, and licensee, parties to a bilateral
14 negotiation, both parties negotiate in good faith, both
15 parties are fully informed, sophisticated licensors and
16 licensees, and the licensor honors its RAND commitment.
17 Would that bilateral negotiation result in a RAND rate?

18 A I'm sorry. You have lost me on the hypothetical. I hate
19 to take your time to do that.

20 Q It is either licensor number one or number two. The
21 licensor enters into a bilateral negotiation, honors its RAND
22 rate, negotiates in good faith, the licensee negotiates in
23 good faith, and they reach agreement. Would the royalty they
24 agree upon be RAND in your view?

25 A By definition, the licensor has honored its commitment.

1 Q And finally, if I understand what you have said about
2 where we are today, if you have a situation where one or both
3 of the licensor and/or the licensee fails to negotiate in
4 good faith, and they reach impasse, in that circumstance you
5 believe it is appropriate for some entity, including this
6 court, to enforce the RAND commitment?

7 A Luckily for all of us I am not a lawyer, but it is hard
8 for me to see how a commitment without any enforcement is a
9 commitment.

10 MR. PALUMBO: Thank you.

11 THE COURT: Mr. Palumbo, thank you. Not bad for a
12 Stanford graduate that didn't go to MIT.

13 Yes, sir.

14 MR. PRITIKIN: Just a couple of questions, your
15 Honor.

16 THE COURT: I expected them.

17 REDIRECT EXAMINATION

18 By Mr. Pritikin:

19 Q Professor, you testified a little bit about stacking and
20 hold-up in the real world and what has been observed.

21 A I testified at length, I'm afraid, yes.

22 Q If firms that have RAND commitments behave themselves,
23 that pretty much solves the problem of stacking and hold-up,
24 doesn't it?

25 A It solves the hold-up problem. There is an academic

1 debate about whether it solves the stacking problem.

2 Q You understand that in this proceeding the purpose of this
3 case is for the court to determine whether Motorola has or
4 has not complied with its RAND commitments?

5 A That is my understanding.

6 MR. PRITIKIN: Nothing further, your Honor.

7 THE COURT: Mr. Palumbo, anything further?

8 MR. PALUMBO: Nothing further.

9 THE COURT: It has been a pleasure having you in
10 court. Thank you.

11 Counsel, we are going until 4:00 today, so let's take our
12 break at this time, and we will be back out shortly after
13 3:00. We will be in recess.

14 (Recess.)

15 MS. HOANG: Motorola calls Dr. Ramamirtham Sukumar.

16 RAMAIRTHAM SUKUMAR

17 Having been sworn under oath, testified as follows:

18 THE CLERK: Will you state your name for the record
19 and spell your last name, please?

20 THE WITNESS: My name is Ramamirtham Sukumar. And
21 the last name is spelled S-U-K-U-M-A-R.

22 DIRECT EXAMINATION

23 BY MS. HOANG:

24 Q Dr. Sukumar, what is your profession?

25 A I am a marketing research, consumer research, and

1 marketing consultant. I also teach and lecture in the areas
2 of marketing.

3 Q Can you please summarize your formal education for us?

4 A I have a BS in mechanical engineering. I have an MBA and
5 Ph.D., with a major in marketing and minor in statistics.

6 Q Similarly, could you please summarize your employment
7 history?

8 A I've taught at a number of universities for almost
9 20 years. Currently, since 2008, I'm president and chief
10 executive officer of Optimal Strategics Group.

11 Q And what is the business Optimal Strategics in?

12 A We conduct marketing research and consumer surveys, and
13 then also consult in the area of marketing.

14 Q In your time at Optimal Strategics, how many market
15 surveys have you conducted?

16 A In the last five years we have conducted in excess of 300
17 surveys.

18 Q Sir, you should have a binder in front of you. Could I
19 have you turn to 3036, please?

20 A Yes.

21 Q Do you recognize this document?

22 A Yes, I do. This is my curriculum vitae.

23 Q Is this a current and accurate reflection of your
24 credentials, Dr. Sukumar?

25 A Yes, it is.

1 MS. HOANG: We move for 3036.

2 MR. HARRIGAN: No objection.

3 THE COURT: It is admitted.

4 (Exhibit No. 3036 was admitted into evidence.)

5 Q Generally, what were you asked to do in this case?

6 A I was asked to conduct two surveys. The 802.11 survey was
7 meant to assess Xbox users' connectivity to the internet.
8 And the H.264 survey was meant to understand the kind of
9 activity Xbox consumers perform on-line.

10 Q The two surveys you conducted, do they interdepend, or
11 relate in any way, or are they a standalone service?

12 A They are a standalone service.

13 Q Are there accepted industry practices and procedures for
14 carrying out surveys?

15 A Yes.

16 Q Did you follow these accepted industry practices and
17 procedures in conducting your surveys?

18 A Yes, we did.

19 Q Dr. Sukumar, is it an industry standard practice to
20 conduct what are known as qualitative interviews before
21 designing a survey?

22 A Yes, it is.

23 Q Did you follow that guideline prior to designing your own
24 survey?

25 A Yes. We conducted 30 interviews of Xbox consumers to

1 understand their language that they use, to help us design
2 the survey.

3 Q Is it also an industry practice to perform what are known
4 as pretests or pilot tests prior to launching the actual
5 survey?

6 A Yes, it is.

7 Q Did you pretest your surveys?

8 A Yes, we did.

9 Q Did you pretest the 802.11 survey?

10 A We pretested all of the 802.11 survey.

11 Q What about the H.264 survey?

12 A H.264, we pretested all of the questions except two of
13 them.

14 Q Can you please explain to the court why you did not
15 pretest two of the H.264 questions?

16 A When I received the request to add those additional
17 questions, the pretests had already been completed for the
18 H.264 survey. I looked at what was being asked. I wrote a
19 very simple set of questions. And I, in my expert opinion,
20 having done a lot of surveys, I decided that these don't need
21 any pretesting. In addition, we also gave an option that if
22 someone didn't understand the question they could say, "not
23 sure."

24 Q In your binder could you turn to Exhibit 3034-B, as in
25 "boy".

1 A Yes.

2 Q Do you recognize this exhibit, sir?

3 A Yes, I do. This is the quantitative screener and
4 questionnaire for the H.264 survey.

5 Q Would you please turn to page 15 of that exhibit?

6 A Yes.

7 Q On that page do you see two questions denoted QH5A1 and
8 QH5A2?

9 A Yes.

10 Q Are these the two questions you were referring to when you
11 testified a moment ago that you did not pretest two questions
12 in the H.264 survey?

13 A That's correct.

14 Q Earlier today I asked you to take a look at Exhibit 2399
15 in your book. Were you able to confirm that Exhibit 2399 is
16 the Excel data file for the raw data you collected resulting
17 from your H.264 survey?

18 A That is correct.

19 Q And were you able to confirm that that exhibit fairly and
20 accurately reflected the data collected in response to the
21 H.264 survey?

22 A That's correct.

23 MS. HOANG: Move for admission of Exhibits 2399 and
24 3034-B.

25 MR. HARRIGAN: Your Honor, our objection is

1 essentially the same objection we raised in the *Daubert*
2 motions, which the court decided was a matter of cross
3 examination. So without waiving that position, we're not
4 waiving that position, but we understand that when I object
5 the court is going to overrule it.

6 THE COURT: It's overruled and goes to cross
7 examination.

8 Q In your book, Dr. Sukumar, could you now please turn to
9 3423?

10 A Yes.

11 Q Do you recognize this document, sir?

12 A Yes, I do. There are tables here. Table 1 and Table 2
13 are summary statistics from the Excel data file we just saw.
14 Tables 3 and on are a tabulation of the summary results from
15 that same data.

16 Q Do the tables accurately summarize the results from your
17 H.264 survey?

18 A Yes, they do.

19 MS. HOANG: Move for admission of 3423.

20 MR. HARRIGAN: Your Honor, in addition to our basic
21 objection, which I already articulated, we believe that there
22 are discrepancies between this demonstrative and the report
23 that we received. In particular, on page five of this
24 exhibit, what are here called "percentage of respondents" are
25 in the report called "percentage of Xbox users." In other

1 words, they purport to be a percentage of all Xbox users, in
2 the report. Here, that has been changed to percentage of
3 respondents. So we think this demonstrative does not reflect
4 what's in the report.

5 MS. HOANG: Your Honor, we're submitting this exhibit
6 under Rule 1006. Dr. Sukumar has testified that he believes
7 it to be accurate. And any questions Microsoft might have,
8 I'm certain they'll cross him on it.

9 MR. HARRIGAN: And could we have a clarification,
10 Your Honor, is this being offered --

11 THE COURT: Is this coming in as a demonstrative, or
12 is it -

13 MS. HOANG: No, sir. It's coming in as a summary of
14 the underlying raw data Dr. Sukumar collected, which is the
15 Excel spreadsheet.

16 THE COURT: I'll permit Microsoft to examine at this
17 point to determine the accuracy.

18 VOIR DIRE EXAMINATION

19 BY MR. HARRIGAN:

20 Q Dr. Sukumar, these percentages shown here on page five of
21 this exhibit were the percentages that you said in your
22 report were percentages of all Xbox users, correct?

23 A Well, if you look at my report, it clearly says that there
24 were some criteria that was used to select people who would
25 complete the survey. Among them were criteria related to

1 access to the internet, and also the number of hours that
2 they spent on the internet. So this is those who completed
3 the survey. This is a summary tabulation of all of who
4 completed the survey from start to finish.

5 Q So, in other words, you excluded, even though your report
6 states that certain percentages of all Xbox users did various
7 things such as used Xbox LIVE Gold, 47.9 percent, you
8 actually excluded from the Xbox users who participated in the
9 survey anyone who did not connect to the internet, did you
10 not?

11 A Well, the questions pertained to people who connect to the
12 internet. So as a result, the reference frame is all about
13 Xbox users who do connect to the internet. And that's the
14 set of respondents that I included here.

15 MR. HARRIGAN: Your Honor, we don't have a problem if
16 this is used for the witness to testify as a demonstrative
17 exhibit at this point. And I think that perhaps we could
18 renew this question after I've actually cross examined the
19 witness. But I believe that we will demonstrate clearly that
20 this does not reflect what's in the report. And so it should
21 not be admitted for purposes of substantive evidence at this
22 point.

23 THE COURT: I will admit it as a demonstrative and
24 take up the admission as a summary after the conclusion of
25 his examination.

1 MS. HOANG: Thank you, Your Honor.

2 DIRECT EXAMINATION (Cont.)

3 BY MS. HOANG:

4 Q Dr. Sukumar, in your book could you now please turn to
5 3034-A?

6 A Yes.

7 Q Do you recognize this exhibit, sir?

8 A This is the screener and questionnaire for the 802.11
9 survey.

10 Q And earlier today I asked you to take a look at
11 Exhibit 2393, which is the other large Excel file in your
12 binder. Were you able to confirm that Exhibit 2393 is,
13 indeed, the raw data that was collected from the 802.11
14 survey that you conducted?

15 A Yes, it is.

16 Q And does Exhibit 2393 fairly and accurately represent the
17 data that was collected in that survey?

18 A Yes, it does.

19 MS. HOANG: Move for admission of 2393 and 3034-A.

20 MR. HARRIGAN: Apart from our objection based on the
21 same grounds as the *Daubert* motion, Your Honor, we have no
22 additional objections.

23 THE COURT: It is admitted.

24 (Exhibit Nos. 2393 and 3034 were admitted into evidence.)

25 Q Can you now turn to 3434, please?

1 A Yes.

2 Q Do you recognize this document, sir?

3 A I do. This is for the 802.11 survey. The first two
4 tables are a summary statistic of the data, the Excel file
5 that you have shown me a little while ago. Then Tables 3 and
6 4 are a tabulation of the summary results.

7 Q And do these tables accurately summarize the results from
8 your 802.11 survey?

9 A Yes, they do.

10 MS. HOANG: Move for admission of 3424, Your Honor.

11 MR. HARRIGAN: 3424. Your Honor, I think we should
12 -- I would request that we follow the same procedure with
13 reference to this and admit it as a demonstrative at this
14 point, then determine, after cross, whether it should be
15 admitted for substantive evidence.

16 THE COURT: Any objection, counsel?

17 MS. HOANG: No, Your Honor. I was going to end my
18 examination there anyway. So we're going to get there
19 faster. Pass the witness.

20 MR. WION: Your Honor, may I approach?

21 THE COURT: Yes.

22 CROSS EXAMINATION

23 BY MR. HARRIGAN:

24 Q Good afternoon, Doctor.

25 A Good afternoon.

1 Q Would you turn, in the binder that you were using on
2 direct, to the page that contains the questions that you said
3 had not been pretested?

4 A Sure.

5 Q I believe it's Exhibit 3034-B at page 15.

6 A Yes.

7 Q So the -- what we're looking at here is some of the survey
8 questions, correct?

9 A That is correct.

10 Q And I'd like you to take a look at the ones you mentioned
11 earlier, QH54 -- excuse me, QH5A1 and QH5A2.

12 A Yes.

13 Q And the first one asks the respondents to, "Select the
14 types of video content you have viewed on your Xbox console
15 (connected to your TV). Please select all that apply." And
16 they're given a choice of interlaced, progressive or not
17 sure, right?

18 A That's correct.

19 Q And then the next question is exactly the same as the
20 first question, except that instead of the choice of
21 interlaced, progressive, and not sure, it's MBAFF,
22 progressive, and not sure, correct?

23 A This question is a nested question of the previous one.
24 So those who answered interlaced in the QH5A1 will now be
25 presented this same question.

1 Q So if you answered interlaced, you are or are not
2 presented the next question?

3 A You are presented the next question.

4 Q Okay. At the time that you prepared these two survey
5 questions, did you know whether it was possible to discern
6 from looking at the TV set whether you were viewing
7 interlaced, or progressive, or MBAFF video?

8 A I personally don't spend a lot of time playing Xbox or
9 watching TV that much. So I personally don't know. But I
10 figured that what we were trying to get at here is knowledge,
11 and therefore those who knew the answer would answer it, and
12 those who didn't would say, "not sure."

13 Q Now, do you know whether it is even possible, you
14 personally today, know whether it's possible to tell by
15 looking at the TV set which of those you're looking at?

16 A As I said, I don't spend that much time on the TV or
17 playing Xbox video games. I wouldn't be able to tell that.

18 Q Were you here when Dr. Drabik testified that he used
19 something called an Elecard to figure out if what was on the
20 TV was MBAFF or not?

21 A I was here. I heard his testimony.

22 Q So do you think anyone who took this survey had any idea
23 what MBAFF was, or was able to tell whether they were looking
24 at it?

25 A If there was a respondent who couldn't tell it, he would

1 pick "not sure."

2 Q Did one hundred percent of them pick "not sure"?

3 A Well, clearly I would fall in the "not sure" category, and
4 I would be among those who would be the respondents who would
5 essentially say "not sure." But certainly a certain percent
6 of the people who understand or recognize that are likely to
7 do that.

8 Q And at the time the survey was prepared, you didn't even
9 know what progressive, interlaced, or MBAFF meant, did you,
10 personally?

11 A Again, I just answered that earlier, which is, I don't
12 spend my time on the technical side. I did know about
13 progressive scans, because I owned a DVD player that was a
14 progressive scan. But beyond that, not really. Like I said,
15 if I were to answer this question myself, I would be in the
16 "not sure" bucket.

17 Q Okay. And I think you said that these questions were
18 provided by counsel after the pretesting?

19 A The requests for the items were made by counsel after the
20 pretesting of the H.264 survey was completed, yes.

21 Q Had they been provided earlier, you would have pretested
22 this question, right?

23 A Absolutely. No doubt about it.

24 Q Are you aware of a publication called Reference Guide on
25 Survey Research?

1 A Yes, I am.

2 Q And is it a well-known and respected publication?

3 A Yes, it is.

4 Q And you have a notebook that we provided you up there.

5 And I'd appreciate it if you could turn to Tab 3, which is
6 Exhibit 3035, which is an excerpt from the document that we
7 were just talking about. Have you got that notebook there?

8 A Yes.

9 Q Let me know when you're at Tab 3?

10 A I'm at Tab 3.

11 Q And is this -- does this appear to be an excerpt from the
12 publication we were just discussing?

13 A Yes, it is.

14 MR. HARRIGAN: We'll offer 3035, at least the portion
15 that's in the notebook. It's 300-pages long, so we didn't
16 put it all in here.

17 MS. HOANG: No objection.

18 THE COURT: It is admitted.

19 (Exhibit No. 3035 was admitted into evidence.)

20 Q Please turn to page 248. That's entitled, "Roman IV,
21 Survey Questions and Structure."

22 A Yes.

23 Q If you look down at the second paragraph underneath that
24 heading, under A it reads as follows: "When unclear
25 questions are included in a survey, they may threaten the

1 validity of the survey by systematically distorting
2 responses, if respondents are misled in a particular
3 direction, or by inflating random error if respondents guess
4 because they do not understand the question. If the crucial
5 question is sufficiently ambiguous or unclear, it may be the
6 basis for rejecting the survey."

7 Do you agree with that statement in this publication?

8 A Well, in general, yes. But in the case of this QH5A1 and
9 QH5A2, the questions were testing the knowledge of these
10 terms, that are terms of art. So the questions are written
11 in a very simple manner that anybody could understand. And,
12 in fact, the questions reduce any kind of inflation, because
13 they allow for a "not sure" option. So as I said, if you
14 would have asked me that question, I would have been in that
15 "not sure" bucket.

16 Q Would you turn to Tab 5 of the notebook? And do you
17 recognize this as your declaration in connection with a Rule
18 702 motion in this case?

19 A Yes, I do.

20 Q Turn to page 7. And at line 12 on page 7, did you advise
21 the court that, "Based on my experience, questions as
22 straightforward and uncomplicated as QH5A1 and QH5A2 do not
23 necessarily need to be pretested"?

24 A That's correct.

25 Q Even though you had no idea what those terms meant?

1 A As I said, the questions are being asked to understand
2 knowledge. And so, you know, I do these surveys, for
3 example, on healthcare, where certain terms are not
4 understood by patients, those who really suffer from the
5 disease and they know about it, they understand it. For
6 example, HBA13. So here we're really looking to understand
7 knowledge, and whether there's a "not sure" that prevents any
8 kind of random answers or inflated answers.

9 Q So you think a question to an ordinary citizen based upon
10 their understanding of the term MBAFF is straightforward and
11 uncomplicated, correct?

12 A If they don't know it, if they don't know the term of art
13 there, they would basically say, "I don't know. Not sure."

14 Q What percentage of the people answering the MBAFF question
15 said, "not sure"?

16 A I think it was -- I don't recall exactly. But it was in
17 excess of 50 percent.

18 Q So you think the other approximately 50 percent knew what
19 it was and could tell whether they were seeing it when they
20 looked at their TV set; is that correct?

21 A Well, there were multiple options in that question. There
22 was MBAFF. There was progressive. Then there was "not
23 sure." And the group that answered that question was a
24 subset, it was a nested question. If you recall, QH5A2 was a
25 nested question of QH5A1. And so 50 percent of those that

1 answered QH5A2 said, "not sure."

2 Q Both of these questions includes a question whether
3 they're watching progressive video, correct?

4 A I didn't hear that.

5 Q Both of the questions that we're looking at have in them
6 the question of whether the respondent is looking at
7 progressive, or was looking at progressive video. The
8 progressive choice is in both, correct?

9 A Well, the second question, the progressive choice has been
10 added in there. But it's only meant for those who have
11 picked at least interlaced as one of the options in the first
12 question.

13 Q I understand that. Progressive is in both questions?

14 A That is correct.

15 Q Did you check the results of the survey to determine
16 whether the answers with respect to progressive video in the
17 two questions were internally consistent?

18 A Yes, I did.

19 Q Would it surprise you to know that out of 140 people, 40
20 who answered gave inconsistent answers as between the first
21 survey question and the second question regarding whether
22 they were watching progressive videos?

23 A Well, again, this is a group that had picked interlaced in
24 the first option. So when they come back here on the second
25 question, it is likely that they might have picked that.

1 Q Now, I'd like you to take a look at your report, which is
2 at Tab 6. And take a look at page 10. And at page 10 in 1-E
3 you make the statement, "The survey results further indicate
4 that 54 percent of all Xbox users have watched
5 progressive-encoded videos. Of the respondents who reported
6 using their Xboxes to watch video content, 16 percent
7 specifically identified that content as MBAFF." That's your
8 conclusion from the survey information, correct?

9 A That's correct.

10 Q And then take a look at your report, page 12, and under
11 "usage," 1-B you say, "The survey results indicate that
12 100 percent of Xbox users have connected to the internet
13 using at least one of the options presented." Then there are
14 three versions of the options by which they might have
15 connected. Is that correct?

16 A That's correct. That's what it says.

17 Q But, in fact, sir, is it not true that one of the
18 disqualifications for proceeding with the survey was of
19 people who reported that they did not use their Xbox to
20 connect to the internet?

21 A That's correct. This question is really about how they
22 connected to the internet, it's not about whether they
23 connected to the internet. So, asking this question of those
24 that did not connect to the internet would be nonsensical,
25 right?

1 Q But, sir --

2 THE COURT: Wait. He didn't finish.

3 MR. HARRIGAN: Sorry, Your Honor.

4 A So, therefore, what's missing in the sentence there is one
5 hundred percent of Xbox users who have connected to the
6 internet use at least one of the options presented below. So
7 earlier on I talk about the screening criteria, and the
8 screening criteria clearly outlines that the entire survey,
9 the 561 people who completed the entire survey, only those
10 who connected to the internet, and clearly the question about
11 how they connected to the internet is only going to be
12 relevant to those who do connect to the internet. So asking
13 it of people who did not connect to the internet would be
14 meaningless.

15 Q So the fact is that this statement is incorrect, isn't it,
16 because one hundred percent of Xbox users have not connected
17 to the internet using one of these three options, because you
18 didn't include, in the survey, people who did not connect to
19 the internet?

20 A Well, again, this question is relevant only to those that
21 did connect to the internet. So as a result, asking this
22 question of those who did not connect to the internet would
23 be meaningless. And if you look at the percentage, in the
24 data that was given, the percentage of those who did not
25 connect to the internet is a very small percent.

1 Q You also excluded from the survey anyone who had spent
2 under one hour a week using the Xbox, correct?

3 A That's correct.

4 Q And anyone under 16, correct?

5 A That's correct.

6 Q And yet you also found in the survey that on average Xbox
7 users spent 13 hours per week on their consoles, correct?

8 A That's correct.

9 Q You didn't say that's characterizing Xbox users, meaning
10 all of them, not Xbox users -- by the way, excluding those
11 who don't connect to the internet, those who use it less than
12 the time that I indicated, or the under-16 group?

13 A So the screening criteria were clearly defined. And so
14 the answers here that result in the summary tabulations are
15 within that universe that was participating in the survey.

16 Q Take a look at your report, page 7. And the
17 third-numbered paragraph on that page. And the table here
18 indicates that invitations to take the survey were sent to
19 approximately 22,000 people regarding H.264 and 24,000
20 regarding 802.11. And then you indicate over here how many
21 responded?

22 A That's correct.

23 Q And by my calculation that is a little bit under
24 15 percent?

25 A I'll take your word for it.

1 Q And take a look at Tab 3, again, which is where we have
2 the manual. And look at page 245. And specifically the
3 second paragraph on that page. The second sentence begins,
4 "According to these guidelines, response rates of 90 percent
5 or more are reliable and generally can be treated as random
6 samples of the overall population. Response rates between
7 75 percent and 90 percent usually yield reliable results, but
8 the researchers should conduct some check on the
9 representativeness of the sample. Potential bias should
10 receive greater scrutiny when the response rate drops below
11 75 percent. If the response rate drops below 50 percent, the
12 survey should be regarded with significant caution as a basis
13 for precise quantitative statements about the population from
14 which the sample was drawn."

15 Do you agree with that?

16 A No, I don't. This manual was written in about 2000 when
17 internet surveys were not as yet in vogue, they were not
18 being used as much. A lot of this is based on other modes of
19 conducting surveys. The 15 percent that you mentioned on the
20 two surveys we did is very customary, that's what we
21 typically tend to get. Additionally, if you look at what was
22 done in this study is we reached out to a U.S. Census-based
23 group, and generally identified those who were relevant for
24 us to survey. So these numbers here are very typical of
25 other modes of conducting surveys in 2000, not more recently.

1 Q And, in fact, Dr. Sukumar, if you focus on the number of
2 people who actually took and completed the survey, it's about
3 one in 45 of those who were asked to complete it, correct, or
4 invited to?

5 A Well, you'd have to look at it as a percentage of those
6 who responded to the survey. So it's about 500 out of 3,000.
7 So, one in six.

8 MR. HARRIGAN: No further questions. Your Honor,
9 we'll renew our objection to the two exhibits that were
10 admitted as demonstratives, based upon the fact that they
11 speak about a percentage of respondents, when the actual
12 report invariably speaks about the percentage of Xbox users.

13 MS. HOANG: May I, Your Honor?

14 THE COURT: You may complete your examination, then
15 I'll rule.

16 MS. HOANG: Thank you.

17 REDIRECT EXAMINATION

18 BY MS. HOANG:

19 Q Dr. Sukumar, looking back at the larger binder at 3034-A
20 and 3034-B. Do those two screener questionnaires contain the
21 screening questions, including screening out non-internet
22 connectors and people under the age of 16, et cetera?

23 A That's correct.

24 Q Were these screeners made available to Microsoft?

25 A Yes, they were.

1 MS. HOANG: Your Honor, we would renew our motion to
2 admit Exhibits 3423 and 3424. The information there, as Dr.
3 Sukumar has testified, is accurate. Actually, ironically,
4 the table headings account for the deficiency that counsel
5 had pointed out in Dr. Sukumar's report. And on top of that,
6 it was never hidden that there were screenings that took
7 place in order to identify the appropriate respondents.

8 So we would submit, Your Honor, that under 1006 this is an
9 admissible, and, indeed, useful summary of the vast
10 quantities of Excel data that you have before you as well.

11 THE COURT: I'm going to treat 3423 and 3424 as
12 demonstratives. I don't disagree that the information is
13 accurate. However, it's in columns that I don't believe
14 accurately portray the actual survey data.

15 MS. HOANG: Thank you, Your Honor. No further
16 questions from me.

17 THE COURT: You may step down, sir.

18 THE WITNESS: Thank you.

19 THE COURT: Next witness.

20 MR. BATCHELDER: Motorola calls Michael Dansky, Your
21 Honor.

22 MICHAEL J. DANSKY

23 Having been sworn under oath, testified as follows:

24 THE CLERK: Will you state your name for the record
25 and spell your last name, please?

1 THE WITNESS: It's Michael J. Dansky, D-A-N-S-K-Y.

2 DIRECT EXAMINATION

3 BY MR. BATCHELDER:

4 Q Good afternoon, Mr. Dansky.

5 A Good afternoon.

6 Q Could we have 2753, please? You should find that in your
7 binder, sir. And can I ask you, is this a copy of your CV?

8 A Could you repeat that number again?

9 Q 2753. It should be in number order.

10 A Yes, that's my current CV.

11 Q Is it accurate?

12 A Yes, it is.

13 Q Where are you currently employed?

14 A I'm currently employed at Capstone Advisory Group.

15 Q That's reflected on the CV?

16 A It is.

17 MR. BATCHELDER: Motorola moves 2753.

18 MS. ROBBINS: No objection.

19 THE COURT: Admitted.

20 (Exhibit No. 2753 was admitted into evidence.)

21 Q What do you do at Capstone?

22 A I'm executive director at the firm. I run our
23 intellectual property group on a nationwide basis. I
24 primarily do intellectual property related consulting. So I
25 value intellectual property. I assist companies with

1 transactions. I do some work in litigation, and some expert
2 work, and I help companies bring their intellectual property
3 to the marketplace.

4 Q Would you please summarize for the court at a high-level
5 your work before Capstone?

6 A Yes. I've been in the intellectual property business in
7 some fashion for almost 30 years. I've worked for a couple
8 of consulting firms, and I spent 14 years at some major
9 corporations.

10 Q Which ones?

11 A I worked at Amoco Corporation, Xerox Corporation and
12 Polaroid Corporation, in a transactional and business
13 development job, primarily licensing technology and valuing
14 technology.

15 Q Roughly how many patent license agreements have you
16 negotiated?

17 A I've never tried to count them. I know it's far more than
18 a hundred. There were probably some years I might have done
19 close to that.

20 Q Roughly how many IP assets have you valuated?

21 A Many hundreds of assets. Sometimes portfolios. Sometimes
22 individual patents. Sometimes blocks of patents.

23 Q Let's talk now about the factors, based on your
24 experience, you consider to be most relevant in assessing the
25 value of a potential patent license. Have you prepared a

1 demonstrative that sets forth those factors?

2 A I have.

3 Q Can we see, please, 5076. It's actually a board that's to
4 your right, Mr. Dansky. But is this that demonstrative?

5 A It is.

6 Q Would you please read each of those factors into the
7 record for His Honor?

8 A The first factor is a combination factor. It says, "The
9 use of patented technology to compete and satisfy consumer
10 demand." The second is, "Past sales and profitability." And
11 the third is, "Estimated future sales and profitability."

12 Q Have you applied these three factors in your professional
13 work?

14 A Yes, I've used them many times.

15 Q And when you applied them, did you analyze the underlying
16 technical issues yourself?

17 A No. I've generally used technical experts, whether they
18 were external technical experts, or company technical experts
19 that we had in our company.

20 Q Have you done the same thing here in this case?

21 A Yes. I relied on Dr. Williams for the 802.11 technology
22 area, and Dr. Drabik for the H.264 technical area.

23 Q Were you here in court to watch them both testify?

24 A I was.

25 Q Did you speak with them and read their reports in

1 connection with your work on this matter?

2 A Yes. I spoke with both of them before I issued my
3 reports. I spoke to them multiple times since then. And
4 I've seen their testimony. And I've spoken to them over the
5 last couple of weeks as well.

6 Q All right. I'd like to turn to the issue of the value of
7 Motorola's 802.11 patents to Microsoft. Let's start with
8 your first key factor, "The use of patented technology to
9 compete and satisfy consumer demand." Did you prepare a
10 slide showing your understanding of Microsoft's view of the
11 competitive landscape of the Xbox?

12 A I did.

13 Q Let me see 5078, please. Is this that slide?

14 A It is.

15 Q Would you walk the court through these passages and why
16 you thought they were important?

17 A So this slide shows information both in the market and
18 from Microsoft relating to 802.11 requirements and the need
19 to have those in their products to compete.

20 So the first one is a CNET article. And some of the
21 highlights in yellow is that the competitive games, the
22 Nintendo and Sony consoles, had built-in WiFi, and the Xbox
23 360, its internet connection was limited to a wired-network
24 connection. They said, "Sadly that hasn't changed on the new
25 Xbox 360 Elite." So this was the market telling Microsoft

1 that their Xbox was missing key components to compete.

2 Chronologically, the second item was from an internal
3 Microsoft planning document where Microsoft indicated that
4 integrated 802.11 and WiFi is a key product differentiator.
5 And at the time they were valuating this against the
6 competitive products.

7 The third piece are two quotes from a 2008 internal
8 planning document. The first one was comparing the
9 competitive products. And the highlight, "The Xbox will be
10 the first to come out with 802.11n." The second was talking
11 about the Omni N, which was the wireless adapter they were
12 planning to launch, which could be used with products that
13 didn't have an internal wireless connector. It indicates
14 that it enables connectivity to the internet.

15 Q All right, sir. Thank you. That top document you
16 referenced there, 2684, can we just blow up the cover of
17 that, please? I just want to clarify what this document is
18 and whether you relied on it.

19 A Yes. It's a review from CNET covering the Microsoft Xbox
20 360 Elite, which is a new product Microsoft had launched.
21 And they were analyzing the product and doing a review of it.

22 MR. BATCHELDER: Motorola moves 2684.

23 MS. ROBBINS: No objection.

24 THE COURT: It is admitted.

25 (Exhibit No. 2684 was admitted into evidence.)

1 Q Were you here in the courtroom last week, sir, for the
2 testimony of Microsoft's Leonardo Del Castillo in regard to
3 802.11?

4 A Yes, I was.

5 Q Did you prepare a demonstrative of how his testimony
6 relates to your opinions?

7 A Yes, I did.

8 Q Let me see 5079, please. Is this that slide?

9 A Yes. So these are also a chronological view of either
10 statements that he made about documents, or statements that
11 he made in court.

12 Q Could we just step through the passages you've identified
13 and explain why you thought they were important?

14 A Yes. The first one he was discussing or responding to a
15 question about a document, an internal document. And he
16 indicated that during this time period, in 2005, WiFi was
17 gaining popularity, and Microsoft was needing to react to
18 that.

19 The second one I've got, "not published" over the passage,
20 so it's hard to read. But it was a discussion about planning
21 document, in 2006. And it talks about Microsoft's
22 competitors, including the Playstation 3, had WiFi integrated
23 for some time. So what he was responding to here is the
24 competitive products had had the embedded feature for a
25 significant period of time.

1 Q And the third one?

2 A The third quote, or passage, related to Mr. Del Castillo's
3 response to Your Honor when he was asking about how WiFi is
4 used in the Xbox 360. In the first highlighted part he said
5 that most homes do not have wired connections today. And he
6 also indicated that if someone is going to connect the Xbox
7 to the internet, it's going to be through WiFi as opposed to
8 putting cables all over the place. And he also indicated the
9 ability to connect to the network opens up the world for all
10 the other features that you can get to. So, this is the
11 portal to be able to get to the internet, and all the other
12 features.

13 And he indicated that customers have grown to expect --
14 what customers have grown to expect from their internet
15 devices. And that's connectivity through 802.11.

16 Q All right, sir. What you discussed so far, how do they
17 relate to your first key factor, the use of patented
18 technology to compete and satisfy consumer demands?

19 A The first part of that is whether and how Microsoft has
20 used the patented technology to complete. And they put
21 802.11 both embedded and through wired connectors -- or
22 wireless connectors into their products.

23 And the second part of it is how they're satisfying or
24 reacting to consumer demand. And it's clearly indicated that
25 the consumer demand and the competitive environment required

1 not just 802.11 capability, but also the integrated factor as
2 well.

3 Q You prepared a graphic regarding WiFi and Xbox's market
4 share?

5 A Yes.

6 Q Let me see 5080, please.

7 And would you explain to His Honor what this reflects?

8 A Yes. It's a little busy. Up on the top, and I'll put a
9 little circle, is a legend. And each of the competitors in
10 the console market are designated by a color. And what I've
11 done here is provide a time series of data from 2006 to 2012,
12 which measures the competitive environment between the three
13 companies and their products, based on market share.

14 And on the bottom, the two time periods are broken up
15 between when Microsoft was selling the WiFi capability
16 separately; and the second time period is when Microsoft was
17 using the WiFi, or embedded the WiFi technology into the Xbox
18 360. And as you can see, over time, in 2006 Microsoft had
19 about 69 percent of the market -- they had launched the
20 Xbox --

21 MS. ROBBINS: I'm trying not to interrupt. Your
22 Honor, we do have an objection to the underlying exhibit,
23 which is the source document cited for this demonstrative.
24 It notes there, Exhibit 2451, which is data taken from a
25 published wiki, which if you go on the various cited portions

1 of the wiki, it's publicly available. Anyone can edit it.
2 In fact, you're able to look and see that the figures have
3 been edited, in many instances, in excess of 20 times. That
4 is the data upon which, when you look at his report and look
5 at the exhibit, this demonstrative and graph is based. We
6 think it's wholly unreliable, and we are objecting on
7 foundation grounds to this.

8 THE COURT: This is an objection that more properly
9 would have been raised in a *Daubert* motion. I'm going to
10 admit the exhibit based upon the fact that he's merely using
11 it to justify his expert opinion, but can be appropriately
12 covered by your cross examination.

13 MS. ROBBINS: You're meaning this is a demonstrative?

14 THE COURT: No. I'm admitting it as an exhibit.

15 Q Please proceed, sir.

16 A Sure. So the Xbox 360 was launched in -- at the end of
17 the year of 2005, so they had taken a significant amount of
18 market share. The Wii and the PS3, with integrated WiFi,
19 both launched late in the year of 2006. As you can see, over
20 the years Microsoft's market share fell precipitously,
21 26 percent, then to 23 percent through 2008 and 2009; while
22 the Wii and the Playstation 3 gained market share against
23 Microsoft. And by 2007 the Wii was the market-share leader,
24 and it continued through 2009.

25 In 2010, in June, Microsoft launched the Xbox 360 with the

1 integrated WiFi. And based on the data that we've seen,
2 there was a fairly instant increase in market share for
3 Microsoft, against its competitors. And that continued over
4 time. And currently Microsoft has the number-one market
5 share for game consoles.

6 Q All right, sir. Thank you. The source document that you
7 reference at the bottom there, 2451, can you pull up the
8 cover of that, please? And what is this table, sir?

9 A Can we blow it up just a little bit more, instead of
10 side-by-side?

11 Q Sure. It's titled as exhibit -- this was Exhibit 4 to
12 your expert report; is that right?

13 A It is an exhibit from my report. It was in my initial
14 report. It provides sales data and market-share percentages
15 that we calculated based on the sales of the Xbox, the Wii,
16 the Playstation 3, and Playstation 2. And the information
17 was available on the internet through sources that we usually
18 use to find market data.

19 MR. BATCHELDER: Motorola moves 2451.

20 MS. ROBBINS: We stated our objection and you've
21 ruled.

22 THE COURT: Admitted for the same reason .

23 (Exhibit No. 2451 was admitted into evidence.)

24 Q Thank you, sir.

25 MR. BATCHELDER: And, Your Honor, I'm about to move

1 to a document that references a couple of documents that
2 you've sealed. And I don't have any skin in this, but I just
3 want to give counsel a chance to object, or move to close the
4 courtroom, or whatever, if counsel wishes to do so.

5 THE COURT: Do you know what these exhibits are?

6 MS. ROBBINS: I don't.

7 MR. BATCHELDER: I'm sorry, this is 5081.

8 MS. ROBBINS: Are you planning to have him read the
9 document into the record?

10 MR. BATCHELDER: Again, this witness -- this document
11 excerpts certain passages of documents that have been sealed
12 by the court. We can publish it on Your Honor's screen and
13 counsel's screen, but not to the galley. And I would intend
14 to proceed with questioning, but I want to make sure
15 Microsoft's concerns would be accommodated if they had any.

16 MS. ROBBINS: We do have concerns. We raised it last
17 night. If it's not published to the gallery but if he's
18 going to read the document, we will have an issue.

19 THE COURT: Then we're going to have to empty the
20 courtroom, in accordance with my ruling this morning.
21 Counsel, this is an example of why I've asked you at the
22 start of every day to cover these instances, so that we don't
23 end up five minutes to four --

24 MR. BATCHELDER: In fact, Your Honor, I think this
25 would take about five minutes, so if you wanted to do that --

1 MS. ROBBINS: We're okay with it. You can proceed.

2 THE COURT: I'm sorry, you're what?

3 MS. ROBBINS: We can not seal the courtroom.

4 THE COURT: Do you want the monitor to the audience
5 turned off?

6 MS. ROBBINS: Yes, please.

7 THE COURT: Whoever has control of the switch.

8 MR. BATCHELDER: This is our man over here, Your
9 Honor. It's taken care of.

10 Q Mr. Dansky, looking forward to the future, did you prepare
11 a slide summarizing your conclusions regarding how 802.11
12 relates to Microsoft's future business strategy?

13 A Yes, I have.

14 Q Can we see 5081, please? And is this that slide?

15 A It is that document.

16 Q Would you please step through the passages you've
17 identified and explain the importance?

18 A Well, the general basis of the document is that
19 Microsoft's strategy for the Xbox has evolved significantly
20 from a game console. And they're looking to evolve into a
21 multimedia hub, something that would sit in your living room,
22 and all the digital information you receive would flow
23 through it. And these are some of the planning documents and
24 information that Microsoft is discussing about that strategy.

25 So the first one talks about Microsoft stating that they

1 wanted to own the living room platform and experiences to
2 capture the hearts and minds of TV consumers, and that they
3 wanted to ensure that they could neutralize the Wii, Sony,
4 Apple, and Google.

5 Q Moving on to the second one. Can we just pull up 2688
6 briefly, please? That's the document that's referenced
7 there.

8 Sir, I don't want you to read from the document, but
9 can you state it, for identification purposes, so I can move
10 it into the record?

11 A This is an internal planning document prepared by
12 Microsoft for their next generation Xbox.

13 MR. BATCHELDER: Motorola moves 2688.

14 MS. ROBBINS: No objection, Your Honor.

15 THE COURT: It's admitted on a sealed basis.

16 MR. BATCHELDER: That's fine. Thank you.

17 (Exhibit No. 2688 was admitted into evidence and sealed.)

18 Q Let's come back to 5081, sir. And would you please
19 explain what it is from 2688 that you thought was important?

20 A There were a couple of things. This is a 2011 document.
21 And they're talking about the next generation Xbox. And
22 they're talking about the console's internet connection is
23 vital to their magical entertainment experiences. So they're
24 talking about importance of the internet connection. And as
25 Mr. Del Castillo testified, most consumers are connecting

1 through WiFi.

2 The second one -- third one, if you could move it a little
3 bit. The "not published" on my screen is over it. They were
4 talking about their competitive landscape and that
5 historically they have competed with Sony and Nintendo. But
6 in this war for the living room, they were squarely focused
7 on Apple, and not primarily the game-console market.

8 Q If I could ask you, sir, that reference to Apple, that's
9 not talking about gaming?

10 A Excuse me?

11 Q That's not talking about gaming, the reference to Apple?

12 A No. This is talking about the digital sort of
13 entertainment world, access to it, and essentially consumers
14 paying for it.

15 Q And the last one, sir?

16 A Yes. This was a portion from Mr. Del Castillo's
17 testimony. He was asked about the evolving nature of the
18 Xbox. He was asked if the Xbox is evolving. And he said
19 "Sure. Yes, it is evolving."

20 Q All right.

21 MR. BATCHELDER: Your Honor, I'm at a transition
22 point. If you'd like to break for the day, this would be a
23 good time to do that.

24 THE COURT: All right. Then we will stop for the
25 day. Counsel, we are done with today. We are resuming at

1 9 o'clock tomorrow morning. And we are going 9:00 a.m. to
2 noon and 1 o'clock to 4:00 p.m. I think I can tell you that
3 Motorola used 5 hours -- that can't be right. Counsel, I'll
4 give you your time limits tomorrow. I need to do my math. I
5 haven't done it yet.

6 Are there any questions before we recess? If you want to
7 stick around, when I come back out for the next matter I can
8 give you the numbers.

9 MR. BATCHELDER: I'll do that. And I appreciate
10 that. Thank you.

11 THE COURT: Any matters to take up before the end of
12 the day?

13 MR. HARRIGAN: I was wondering if there's a way for
14 us to find out the numbers before tomorrow morning.

15 THE COURT: If you'll stick around I'll come back
16 out.

17 MR. PALUMBO: Mr. Harrigan was reading my mind. I'll
18 stick around also.

19 THE COURT: Thank you, counsel. We'll be in recess.
20 There's another matter at 4 o'clock. You might want to slide
21 your stuff over. It's a civil matter, so we don't have to
22 worry about the Marshals.

23 (The proceedings recessed.)
24
25

C E R T I F I C A T E

we, Debbie K. Zurn and Barry Fanning, Court Reporters for the United States District Court in the Western District of Washington at Seattle, do hereby certify that we were present in court during the foregoing matter and reported said proceedings stenographically.

We further certify that thereafter, we have caused said stenographic notes to be transcribed under our direction and that the foregoing pages are a true and accurate transcription to the best of our ability.

Dated this 18th day of December, 2012.

/s/ Debbie Zurn, Barry Fanning

**DEBBIE ZURN/BARRY FANNING
OFFICIAL COURT REPORTERS**